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ABSTRACT

This study examined three important aspects of student mobility (incidence, consequences, and causes) as they apply to students and schools in California, especially at the secondary level. The study drew on an extensive set of data on California students, parents, and schools that included surveys of 1,114 8th graders followed over 6 years as part of the National Education Longitudinal Study, surveys of 10th graders in 56 schools (part of the High School Effectiveness Study), interviews with 19 mobile high school students and their parents, and interviews with 32 educators. Mobility rates of California students are generally higher than elsewhere in the United States. Almost 75% of California students made unscheduled school changes between grades 1 and 12, compared to 60% of the rest of the United States. Student mobility is prevalent among all ethnic and immigrant groups in California. Overall, only half of high school changes result from changes in family residence. In fact, students themselves often initiate changes at the high school level. Findings indicate that students suffer psychologically, socially, and academically from mobility. Mobility also has effects on classrooms and schools that must deal with mobile students. Some suggestions are made for reducing student mobility and coping with it when it does occur. An appendix contains tables of study data. (Contains 12 tables, 13 figures, and 67 references.) (SLD)

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RESEARCH SERIES 99-2

The Educational Consequences of Mobility for California Students and Schools

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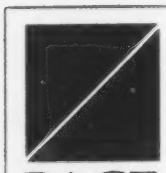

Policy Analysis for California Education
University of California, Berkeley & Stanford University

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THE EDUCATIONAL CONSEQUENCES OF MOBILITY FOR CALIFORNIA STUDENTS AND SCHOOLS

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March 1999

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EXECUTIVE SUMMARY

Although all students change schools when they are promoted from one school level to another, some students also move from one school to another for reasons other than promotion. The practice of students making non-promotional school changes is referred to as **student mobility**. Past research has documented that student mobility is widespread in the United States and often detrimental to the educational achievement of students. Yet little of this research has focused on the secondary level or examined mobility from the school perspective.

This study examined three important aspects of student mobility—incidence, consequences, and causes—as they apply to students and schools in California, especially at the secondary level. More specifically, the study addressed the following questions:

1. What is the incidence of mobility among California students and California schools? How does the incidence vary among types of students and schools?

2. What are the educational consequences of student mobility for students and for schools?

3. What are the causes of student mobility for students and for schools? To what extent do families and schools contribute to the problem?

4. What strategies can be used by families, schools, community agencies, and the state both to reduce the incidence of "needless" mobility and to mitigate the potentially harmful effects of student mobility that does occur?

The study drew on an extensive set of data on California students, parents, and schools, including: surveys of 1,114 California 8th grade students who were followed and interviewed over a six year period from 1988 to 1994 as part of the National Education Longitudinal Study (NELS); surveys of 51 California high schools and their 10th grade students who were followed and interviewed between 1990 and 1992 as part of the NELS: High School Effectiveness Study (HSES); interviews with 19 mobile high school students and their parents from Los Angeles; and interviews with 32 school administrators, counselors, and teachers from 10 secondary schools in one urban and one suburban district in Southern California. The data were used both to provide descriptive information on the nature of mobility among students and schools and to test some statistical models that identified some specific causes and consequences of the problem. Drawing on multiple sources of data not only provided a more complete picture of student mobility, it also provided us with more confidence in our findings because there was remarkable consistency from our data concerning the consequences and causes of student mobility in California.

Below we summarize the major findings from this study regarding the incidence, consequences, and causes of student mobility. We then discuss what action should be taken by students and parents, schools, and state policymakers to address this problem.

THE EXTENT OF STUDENT MOBILITY IN CALIFORNIA

Our analysis yielded several important findings about the extent of mobility among California students and schools.

- **California students, like students in the rest of the United States, are highly mobile.**

In fact, more students from the high school graduating class of 1992 made non-promotional school changes during their elementary and secondary school careers than remained in a stable pattern of attending a single elementary, middle, and high school. School changes were more common during elementary school than during secondary school. In fact, mobility is the norm during elementary school, while it is the exception during high school.

- **Mobility rates are generally higher in California than elsewhere in the nation.**

Almost 75 percent of California students made unscheduled school changes between grades 1 and 12 compared to 60 percent in the rest of the nation.

- **Student mobility is prevalent among all ethnic and immigrant groups in California.**

Mobility rates did not vary widely among ethnic and immigrant groups in California. But mobility was clearly related to family income and socioeconomic status-low-income students were more mobile between the 8th and 12th grades than high-income students. Students from single-parent and non-traditional families were also more mobile than students from two-parent households.

- **California high schools vary widely in their student mobility rates and have more schools with extremely high mobility rates than high schools in other states.**

In 1990 the average high school in California saw 22 percent of its 10th grade students leave before completing 12th grade. But some schools had mobility rates much lower than the state average while some schools had much higher mobility rates. One out of five high schools in California had student mobility rates in excess of 30 percent and one out of ten had student mobility rates in excess of 40 percent, compared to six percent in other states. We interviewed school personnel in such schools and they reported that such high rates of mobility greatly impacted their schools and generated considerable chaos for students, teachers, and school administrators.

THE EDUCATIONAL CONSEQUENCES OF STUDENT MOBILITY

Next we examined the educational consequences of mobility for students and for schools, drawing on all four sources of data used in this study—student surveys, school surveys, student and parent interviews, and school interviews. To a large extent, the conclusions drawn from each data source converged—that is, they all told a similar story of how mobility impacts students:

- **Students tend to suffer psychologically, socially, and academically from mobility.**

Many students experience difficulties adjusting to new school settings. Both students and educators reported school transfers affected their personality or psychological well being. And although the NELS student survey data did not show any significant differences in self-esteem and

locus of control, the differences were in the expected directions, with mobile students reporting lower self-esteem and less self-directed control of their lives.

- **Mobile students often experience difficulty in making new friends and fitting in socially to a new school situation.**

Mobile students in the student surveys reported that they were less likely to be involved in extracurricular activities than stable students. Students and educators who were interviewed confirmed this lower level of involvement, with educators suggesting that this was due in part to poor attendance which reduced the possibility for after-school activities. Possibly as a result, both teachers and students themselves report that mobile students are more likely than other students to act out or to get into trouble in school. Prior research has found that both misbehavior and lack of involvement in extracurricular activities increases the risk of dropping out.

- **Mobility hurts students academically.**

There is overwhelming evidence that mobility during high school diminishes the prospects for graduation: students who changed high schools even once were less than half as likely as stable students to graduate from high school, even controlling for other factors that influence high school completion. Our interviews with school personnel revealed some of the reasons why mobile students have trouble finishing—they sometimes get placed in classes that do not contribute to high school completion or they get placed in classes where the curriculum differs from their previous school—a condition referred to as "curricular incoherence." There was less consistent evidence that mobility had a negative impact on grades and test scores. We had difficulty ascertaining the impacts with the NELS student survey data because so many mobile students were missing test scores in 12th grade. In 10th grade, mobile students had lower test scores, but the differences were only statistically significant in two out of four academic subjects. Interviews with students revealed why the impacts of student mobility on academic achievement were hard to predict: students who made "strategic" school changes to seek a better educational placement, in general, reported positive academic impacts, while students who made "reactive" school changes due to intolerable social or academic situations were more likely to report negative academic impacts from changing schools.

All our findings on the student consequences of mobility are consistent with previous research studies and with our original conceptual framework that guided this study. Our results confirm what other studies have found—that many students suffer psychologically in trying to adjust to new school settings. Our finding that mobility is detrimental to school engagement as well as school completion further confirms the theoretical underpinnings of this study relating student engagement to school completion and the empirical research regarding the impact of student mobility on school completion and graduation.

- **Mobility not only impacts students who change schools, it impacts classrooms and schools who must deal with mobile students.**

School personnel identified a number of ways that mobile students create chaos and burdens in the classroom as well as the school. Teachers were adamant about how disruptive and difficult it is to teach in classrooms with constant student turnover. And school administrators reported how time-consuming it is simply process students when they enter and exit a school. Beyond the administrative costs, school personnel also identified other impacts, such as the fiscal impacts that result from mobile students failing to turn in textbooks, and effects on school climate.

- **Mobility not only hurts mobile students, but also non-mobile students.**

Our statistical analysis of school test scores found that average student test scores for non-mobile students are significantly lower in high schools with high student mobility rates. Since one out of every five urban and suburban high schools in California has a mobility rate in excess of 30 percent, we conclude that a substantial number of students in California are impacted by student mobility. Educators were quick to point out how mobility could affect both mobile and non-mobile students in their schools. They characterized the overall effects of student mobility at the school level as a "chaos" factor that impacts classroom learning activities, teacher morale, and administrative burdens—all of which can impact the learning and achievement of all students in the school. This finding was also consistent with our conceptual framework that guided the study of mobility as a school phenomenon and supported previous studies that have documented the influence of student composition on school outcomes.

THE CAUSES OF STUDENT MOBILITY

We investigated what causes mobility among students and among schools. Mobility among students arises for a number of reasons. In some cases, families move, requiring students to change schools. In other cases, students and their families may be unhappy with the education they are receiving at one school and change schools in order to find a more suitable education. In still other cases, the schools that students initially attend force them to leave because of academic or social problems, such as poor attendance or getting into fights.

Mobility rates among schools are due, in part, to the mobility among the students that they enroll. Some schools enroll students who come from families that are more likely to move. But student characteristics only explain some of the differences in mobility rates among schools. Some of the differences are due to the characteristics of the schools themselves, including their resources, policies, and practices.

Again we drew on both survey data and interview data to address this important aspect of the student mobility issue. And again the analysis of these data tended to converge and corroborate each other, leading to several major findings about the causes of mobility among students and schools:

- **Only half of all high school changes are due to families changing residences.**

We examined both the stated reasons students change schools and some predictors of mobility during high school. We found that students change schools for a variety of reasons. Some are family-related reasons. Most of the educators we interviewed believed that residential mobility was responsible for most of the student mobility they observed at their schools. But our analysis of parent survey data in California revealed that only about half of all secondary school changes involved changing residences. Interviews with students and their parents revealed that residential changes are prompted by both economic considerations, such as changing jobs, and by family disruptions, such as divorce or separation.

- **Students themselves often initiate school changes at the high school level, especially in California.**

According to parent survey data, almost half of recent high school changes were initiated by adolescents requesting a change of school. Interview data from students and parents revealed that most of the student-initiated changes were reactive rather than strategic in nature—students changed

schools to escape a bad situation rather than to actively seek a better situation. Students reported that sometimes they were escaping social isolation or an unsafe school environment; other times they were escaping what they considered to be a hostile academic environment.

- **Schools often initiate mobility, especially in California.**

Schools can force students to transfer for both social and academic reasons. Fighting or poor grades, for example, can prompt a school to seek an alternative placement for students. Our analysis of parent survey data showed that students in California were much more likely than students in other states to be subjected to school-initiated transfers. This raises the question of why students in California should be subjected to such changes especially in light of our earlier findings that high school changes increase the risk of dropping out.

- **Both student-initiated and school-initiated school changes are prompted by social as well as academic situations.**

Our statistical analysis of the student survey data supported the idea that both social and academic factors contributed to student mobility. For example, school behavior incidents in 8th grade increased the likelihood of high school mobility, while better grades in 8th grade reduced the likelihood of high school mobility. These findings support our study's initial conceptual framework that suggests student mobility, like student dropout, is influenced by students' social and academic engagement in school. Our analysis of interview data modified this initial framework, however: it revealed that although the process of changing schools is often reactive, for some students it can also be a strategic strategy to find a better school environment.

- **One out of every eight students in California is "chronically" mobile, experiencing high mobility through out their elementary and second school careers.**

Our statistical analysis revealed that students who made frequent (3 or more) school changes during elementary school (grades 1 through 8) were more likely to change high schools. This means that chronically mobile students attend 6 or 7 schools over a 13 year period, which hampers their ability to engage in school and greatly increases their risk of school failure.

- **The reasons for changing schools vary among ethnic groups in California.**

Our student and parent interviews revealed differences between Asians, Latinos, and non-Latino Whites in the reasons for changing schools: Asians more often made strategic, family-initiated school changes, while African-Americans, Latinos, and non-Latino Whites more often made reactive school changes. Our statistical analysis of student survey data also revealed differences between these three groups: Latinos who reported school behavior incidents during 8th grade were more likely to change high schools, even after controlling for the effects of other student and family factors.

- **More of the differences in student mobility rates among California high schools can be explained by school characteristics rather than the characteristics of students enrolled.**

This means that not only students (and their families), but also schools are responsible for the high mobility rates found in some California high schools.

- **The composition of students in high schools affects student mobility rates above and beyond the individual effects of student background characteristics.**

In particular, we found that high minority schools had high student mobility rates. This finding is consistent with other empirical studies that found student composition affects school performance. Case studies on individual schools suggest that schools with high concentrations of minority studies tend to be large, located in poor, urban centers, and enforce policies that actively promote student turnover. Our interviews with school personnel identified two additional conditions found in large, urban and high minority schools that could contribute to student turnover: open enrollments and overcrowding. Open enrollment allows students to readily change schools if they can find one with sufficient space, while overcrowding prompts schools to transfer students even if they wanted to enroll them.

- **Finally, school resources and an environment that increases student engagement can reduce student turnover.**

We found that schools with lower student-teacher ratios had lower student mobility rates than other schools, even after controlling for differences in the characteristics of students involved. We also found that schools where students reported doing more homework also had lower mobility rates. Both findings suggest that school policies and practices can affect student mobility rates.

WHAT SHOULD BE DONE?

What can and should be done about student mobility? The answer to this question depends on how one views this phenomenon. If mobility is viewed largely as a strategic activity initiated by students and their families to serve their own interests and educational preferences, then any response to this issue should be directed toward them. And there may be little that can be done to prevent mobility when mobility is a result of families' decisions to change jobs or residences. In this case, the only response is perhaps to better inform students and parents about the possible problems that can result from changing schools and how to mitigate them.

However, as we have shown, a large share of student mobility, at least during secondary school, is not associated with family residential changes and is not strategic. Rather, both students and schools initiate student transfers in response to social as well as academic concerns. Moreover, there is substantial evidence, both from the data presented in this study and data reported elsewhere, that demonstrates mobility during high school increases the risk of dropping out.

We believe that much can and should be done to prevent some types of mobility, especially reactive school changes, and to mitigate some of the harmful effects from mobility. We also believe that students, families and schools should address this problem. Furthermore, the State of California, having a constitutional authority over the state's education system, should be involved in addressing this important educational issue.

There are a number of responses to mobility that could be undertaken by (1) students and their families, (2) schools, and (3) state policymakers.

What Students and Families Should Do

Although our research found school changes during high school increase the risk of dropping out, clearly not all school changes are detrimental. In fact, we found that strategic or purposeful

school changes can be beneficial. Moreover, students and parents have the right to choose the best high school for their needs. But we also found that many times students change schools in reaction to unpleasant or undesirable situations in their school, often in the middle of the academic year. Some of those changes are unnecessary as well as detrimental. Consequently, we believe there are a number of things that students and parents can do to help prevent "needless" mobility as well as to help to mitigate the potentially harmful effects of mobility that may be necessary or desirable:

1. **Attempt to resolve problems at school before initiating a school transfer.**

Our interviews with students found that many times students change schools in reaction to a problematic situation in their school, either a social situation or an academic one. Both students and parents, as well as school officials, often believe that simply by changing schools such problems will be resolved. But students report that such problems do not always disappear. For example, if a student is having trouble getting along with other students, simply changing schools will not automatically resolve this difficulty and further requires a student to adjust to a new school environment. Therefore, it is probably better in some cases to attempt to resolve the difficulty in the current high school before initiating a transfer.

2. **If possible, make school changes between semesters or at the end of the school year.**

Teachers report that students who transfer after the beginning of the semester are usually behind other students in their class work, which increases their risk of failure. This may not be the students' fault—we found that students are often put in classes that do not correspond to what they were in before either because appropriate classes were full or because their new school did not take the time to make an appropriate placement. But whatever the reason, transferring in the middle of a semester introduces additional risks. Students can reduce these risks by transferring between semesters or over the summer.

3. **When a transfer is made, parents should personally sign students into their new school and meet with a school counselor. They should also make sure that their child's school records are forwarded in a timely manner from their previous school.**

Students and parents should do everything they can to ease the transition to a new school setting. This includes trying to get appropriate course placements as well as an orientation to their new school setting. One way to accomplish this is to meet with a counselor at their new school immediately after arriving.

4. **Parents should make a follow-up appointment with a school counselor and teachers two or three weeks after a transfer is made to see how their child is adjusting to the new school.**

Adjusting to a new school is often difficult for students. There are psychological, social, and academic challenges to overcome. Parents should monitor closely how their child is adjusting to the new school setting. One way to check on their child's progress is to make a follow-up appointment with a counselor and some teachers. Of course they can ask their own child about day-to-day experiences as well.

What Schools Should Do

Schools, like students and parents, can work to reduce unnecessary mobility and to mitigate its harmful effects. The most general yet potentially the most effective strategy to reduce mobility is to improve the overall quality of the school. By doing so, students and parents are more likely to remain at a school than to leave in search of a more suitable educational environment. Case studies have documented the fact that schools that undertake substantial and meaningful reforms can dramatically reduce their student mobility rate. For example, in a three year period from 1987 to 1990, Hollibrook Accelerated School in Houston Texas reduced its student mobility rate from 104 percent to 47 percent. Programs that target high-risk students—those who are most likely to leave a school—have also been shown to dramatically reduce student mobility. The ALAS Dropout Prevention program reduced student turnover by one half among the most at-risk Latino students in a Los Angeles area middle school.

In addition to these large-scale efforts, schools can undertake some specific strategies to help address problems associated with mobility. Counselors can do a number of things:

1. **Counselors can encourage students to remain in the school if at all possible.**

Again, some school changes are unnecessary and detrimental. Counselors can "problem solve" with a withdrawing student about how he or she could remain at least until the year end—for example, how students could use public transportation if they moved out of the neighborhood or be transported by a family member. Counselors should also require a parent to be present to help resolve these issues.

2. **Counselors and administrators should prepare <u>in advance</u> for incoming transfer students.**

Schools can improve the transition and adjustment of incoming transfer students by planning materials and activities for such students before they arrive. This will not only aid students, but will help reduce the sudden demands that processing such students often requires. Some specific activities that could be undertaken include:

- Create extra sections of required courses at the beginning of the school year to accommodate the expected increase in transfer students throughout the year.
- Make orientation video about the school.
- Develop short assessment test for reading, writing and computing as a way to determine which class to assign students if they do not bring a transcript.
- Train a corps of student volunteer coaches who have entered the school late.
- Create interesting information packets of extracurricular activities.
- Organize students to provide weekly on-going information booths at lunch where they explain the various extracurricular activities and how to join.

3. **Counselors or administrators should facilitate the transition of incoming transfer students <u>as soon as they arrive</u>.**

Schools can help to mitigate some of the harmful psychological, social, and academic impacts of student mobility. Some specific actions they can take are:

- Encourage students to enroll in a class without credit to gain experience and then reenroll for credit at the semester or new year.
- Assign a very late-arriving student to independent study where credit can be earned until the new semester or year end.
- Encourage new students to join extracurricular activities or, if appropriate, a counseling group.
- Make an appointment with the transferring student to phone or come by in one or two weeks after they arrive to discuss how things are going in the new school.

4. **Schools should establish on-going activities and procedures to address the needs of new students.**

The problems that students face adjusting to a new school can continue for a long time. Therefore, schools need long-term strategies to address these problems if they wish to be successful in engaging and retaining their new students. Some specific actions schools can take include:

- Provide a "new student" group to meet at lunch.
- Provide after-hours (evening or Saturday) parent conferencing.
- Create referral procedures for new students who are showing adjustment problems.
- Sponsor school-wide "acquaintanceship" contests or activities.
- Ask staff and teachers to mentor a new student who might experience difficulties academically or socially.

5. **High schools should assess the past enrollment history of incoming students, including the number of previous school changes, and closely monitor the educational progress of students with three or more previous school changes.**

Teachers, too, can help the transition of incoming students in their classes. Like counselors and administrators, teachers can take actions before, during, and after the arrival of new students in their classes.

Our findings reveal that students with three or more previous school changes between grades one and eight are much more likely to change high schools and subsequently drop out of school. Therefore, schools should routinely assess past enrollment histories of incoming students to identify such students and target interventions for them. The enrollment history should also be used to identify other risk factors as well, such as those who have been retained in earlier grades, since those factors also increase the risk of dropping out.

6. **Teachers should prepare in advance to accommodate incoming students.**

Teachers who know they must face a large number of new students in their classes throughout the school year can prepare in advance for their arrival. This will help the students and reduce the

immediate demands of these students at the time of their arrival. Some specific things that teachers can do include:

- Develop learning packets that give important background information and activities of key units so that when a student comes in the middle of a unit they can catch up.
- Create subject matter skills assessment test.
- Create reading comprehension and writing assessment test.
- Create a personal information or journal assignment. Develop a list of 5 to 10 personal questions that the student can answer in two pages. This will not only help the teacher know the student better but also provide a sample of writing skills.
- Create short list of class rules and procedures for routine assignments.

7. Teachers should facilitate the transition of new students as soon as they arrive.

Just as counselors and administrators need to take action as soon as new students arrive, so should teachers. Some specific activities they can do include:

- Assess the student.
- Hand out learning packet.
- Introduce the entering student to the class.
- Pair the student up with another student for extra help.
- Take some time in the first day or two to talk to the student one-on-one and welcome them.
- Ask the student to make an appointment at lunch to give them an orientation to the class.
- Introduce them to another student who entered late and who is succeeding.

8. Teachers should establish on-going activities and procedures to address the needs of new students.

Teachers, too, need to develop on-going procedures and practices to ensure the successful transition of new students to their classes. Some specific things they can do include:

- Read the cum record for grades, attendance and background.
- Contact the parents to inform them about the class and expectations. Take the time to discuss with the parent the hazards of changing schools midyear.
- Provide tutoring or review before or after school or at lunch.
- When teaching, stand near the new student the first week to make sure they are on track.
- Look for indications that the student is struggling with the classwork or having problems with social or psychological adjustment. Refer to other professionals as necessary.

9. **Schools should establish procedures to recover textbooks from withdrawing students.**

We found that schools with high student turnover suffered huge financial losses from withdrawing students who fail to return their textbooks. Although the California Education Code permits school districts to set up a "reasonable" due process to recover non-returned textbooks, many districts have found it difficult to do so and have given up on the idea. And the State Attorney General has ruled that districts cannot withhold student records. But schools and districts that have been heavily impacted by mobility need to establish some sort of procedure to recover these books. Schools may want to consider a financial incentive system for students whereby students are given cash awards to return books, which could actually save money over the cost of replacing the textbooks. Districts and even the state could help schools set up such programs.[1]

What the State Should Do

Although student mobility results from the actions of students, families, and schools, the State of California is clearly impacted by this problem. And because the state has constitutional authority for education and provides the majority of funds for local schools, the state has a clear interest in addressing this issue. Below we outline some actions the state might consider:

1. **Require schools to report mobility and completion rates to the State Department of Education.**

One reason so little is known about student mobility in California is that the state does not collect data on the extent of this phenomenon. The State Department of Education currently collects a variety of information from the state's schools through the California Basic Education Data System (CBEDS). This information includes the number of students who graduate (for high schools) each year and the number of students who drop out grades 7 through 12 each year. We believe with only modest changes in the reporting requirements of CBEDS, it would be possible for schools to report the total number of students who complete (elementary and middle schools) or graduate (high schools) each year and to disaggregate those numbers by when students first entered the school. This would allow schools to construct **cohort graduation rates** and **cohort mobility rates**. Cohort graduation rates are simply the proportion of students who graduate from a specific entering class or cohort of students. As the U.S. Department of Education points out, cohort graduation rates provide a much better picture of how many students from each grade cohort complete or drop out of school over time. Knowing how many students from each entering grade cohort graduated or completed school would also provide information on the number of students from each cohort who left before completion—that is, the cohort mobility rate. This additional information could also be combined with information on the number of retained students since the state has recently enacted legislation to change promotion and retention policies that could greatly increase the number of retained students. Because both excessive mobility and retention increase the risk of school dropout, schools should routinely collect data on these two student indicators. These data could also be used to report the number of students from each entering cohort who remain in their school and graduate on time. Finally, some schools may be particularly impacted by both mobile students and retained students, which would present particular challenges for those schools and likely have an adverse effect on school performance.

2. **Include mobility rates as a measure of school effectiveness in school accountability and performance reports.**

[1] We'd like to thank Gary Hart for suggesting we address this issue.

Indicators of school performance should take into account student mobility. The California Legislature is considering legislation to develop a new way to measure the performance of the state's public schools in order to rank and categorize them for improvement efforts. Indicators of school performance should take into account student mobility in two ways. First, schools should be accountable for retaining the students that enter their school. Cohort mobility and graduation rates should be included as a measure of school effectiveness because they reflect the "holding power" of schools-their ability to retain and educate the students who walk in the door. One popular measure of institutional quality in higher education is based, in part, on graduation rates for entering freshman with no distinction between departing students who drop out or transfer to another institution. As with all measures of school effectiveness, it would be necessary to take into account a school's demographic characteristics that can contribute to school mobility rates. Second, schools should be accountable for the academic achievement of the students they retain. In comparing schools, it is not only important to take into account differences in the socioeconomic status of the students, but also how long the students have been in that school. Schools should be accountable for the achievement of the students they have had the opportunity to educate for a reasonable amount of time.

3. **Hold school districts accountable to monitor the whereabouts of students who leave a school early, particularly students who say they are transferring to another school within the district, to insure that students actually enroll in another school in a timely fashion.**

Student mobility is a problem, in part, because students who change schools are not monitored in the period between when they leave one school and when they enter another school, even within the same district. Currently, no one is accountable for these students during this transition period. Data from an earlier study of student mobility revealed that it often is several weeks before secondary students re-enroll in another school. This needs to change to avoid an unnecessary interruption in a student's schooling. Because school districts are legally responsible for the educational welfare of their students and because most mobility takes place within districts, school districts should be accountable to the state to minimize the transition time in school transfers.

4. **Require school districts to transmit student records to the new school in a timely fashion.**

One frequent problem is that student records are not delivered to the new school in a timely fashion. Without these records, school personnel at the new school may not be aware of a student's educational history and services that he or she may need. The State Department of Education is currently working on an electronic student information system, which should facilitate the transfer of student records between school districts. But this system is not expected to be fully operational for a number of years. In an earlier we found that 80 percent of non-promotional school changes for a cohort of urban Latino students were within the same district. Therefore, districts should be able to facilitate the timely transfer of student records between schools within their own districts before the state system is operational.

5. **Urge the State Department of Education to prepare a guidebook for students and parents on mobility that describes the advantages and disadvantages of changing schools and provides information on actions they can take to prepare for the move and ease the transition into a new school.**

At least some mobility could be prevented if students and parents were better informed about the risks and rewards of changing schools. And the transition to a new school could be improved if students and parents knew what to do to facilitate the transition.

6. **Urge the State Department of Education to prepare a guidebook for school districts that provides information on actions they can take to reduce unnecessary school transfers and to respond to the needs of transfer students.**

Some schools actively encourage student transfers without considering the educational consequences. And schools may do little to help integrate transfer students into their schools and improve their prospects for academic success. But some schools, both in California and elsewhere in the US, have established a variety of interventions for transfer students including orientation programs and "buddy" programs to help students adjust more quickly and successfully to their new schools. The State Department of Education could investigate the effectiveness of these programs and provide useful information to schools throughout the state.

7. **Provide funds to schools with high mobility to establish programs that improve the integration of new students.**

The State Department of Education could also provide grants to schools to develop, implement, and evaluate "newcomer" programs in middle and high schools with high mobility.

In conclusion, the State of California is now embarking on a series of educational reforms designed to improve student achievement. But to be successful, these reforms need to recognize and address a range of current problems facing California's students and schools. Student mobility is one of those problems. It affects one out of every three students and one out every five schools, reducing both student and school performance. And it disproportionately impacts the most disadvantaged students and disadvantaged schools. If the state hopes to improve the educational welfare of those students and schools, the problem of student mobility must be confronted.

Chapter 1

INTRODUCTION

Students in the United States change schools frequently. Some of these changes arise from students making scheduled changes due to promotion from one type of school to another, such as elementary school to middle school or from middle school to high school. But other changes involve moving from one school to another for reasons other than promotion. The practice of students making non-promotional school changes is referred to as **student mobility**.

Student mobility is widespread in the United States. One national longitudinal survey of 1988 eighth graders found that 31 percent made two or more non-promotional school changes between the 1st and 8th grades and 10 percent made two or more non-promotional school changes between the 8th and 12th grades (Hudis & Rathnam, 1994). A more recent national study revealed that more than 40 percent of all third graders had changed schools at least once since first grade and 17 percent had changed schools 2 or more times (U.S. General Accounting Office, 1994). Both studies demonstrated that the incidence of non-promotional school changes was higher among Latino, Black, Native American, and poor children than among white, Asian, and middle and high-income children.

Student mobility not only varies widely among students, but also among schools. It is especially high within large, predominantly minority, urban school districts. A survey of more than 50 local education agencies throughout the United States revealed that in many districts the proportion of students enrolled in a school for less than the entire academic year often exceeds 30 or 40 percent (Ligon & Paredes, 1992). In the Los Angeles Unified School district, for example, the turnover rate (the proportion of students who entered after school started or left before school ended) across the district exceeded 40 percent in the 1990-91 school year (Los Angeles Unified School District, 1991). A recent study of immigrant education reports that the turnover rates in the majority of schools in three California school districts exceeded 50 percent a year (McDonnell & Hill, 1993).

Not only is student mobility widespread, it can also be detrimental to educational achievement at both the elementary and secondary levels. At the elementary level, mobile students experience both social and academic adjustment problems that impact their academic achievement, with older students more likely to develop problems than younger students (Benson, Haycraft, Steyaert, & Weigel, 1979; Benson et al., 1979; Crockett et al., 1989; Holland et al., 1974; Jason et al., 1992; Tucker et al., 1998). At the secondary level, mobile students are less likely to complete high school than stable students (Astone & McLanahan, 1994; Haveman & Wolfe, 1994; Hess & Lauber, 1985). Even after controlling for other student characteristics that may contribute to student mobility and student achievement—such as poverty or family status—students who change schools experience lower academic achievement than students who do not change schools (Jason et al., 1992; McMillen et al., 1997; Rumberger, 1995; Rumberger & Larson, 1998a; Wood et al., 1993, Table 5).

Despite the fact that student mobility is widespread and detrimental to student achievement, the issue has not received much attention from educational practitioners or policymakers. One reason is student mobility is frequently seen as an inevitable result of family relocation or residential mobility that schools can do little about. Indeed, residential mobility in the U.S. is high and generally higher than in other Western countries and Japan (Long, 1992). A recent survey of American children found that 75 percent of all school-age children in the U.S. moved at least once before they were 18 years old and 10 percent moved at least 6 times before they were 18 (Wood et al., 1993). An earlier study by the U.S. Census Bureau found that one-fifth of all school-age children in the U.S. in 1987 moved over a one-year period (U.S. Bureau of the Census, 1987).

Although residential mobility contributes to student mobility, schools also play a role. One national study of high school students found that 40 percent of the reasons for transferring schools were not related to moving (Lee & Burkam, 1992). Another study found that 40 percent of elementary students who transferred schools in Chicago between 1992 and 1993 did not change residences (Kerbow, 1996). And case studies of two urban high schools documented how school

officials actively tried to "get rid of troublemakers" by forcing them to leave or telling them they must leave (Bowditch, 1993; Fine, 1991). Taken together, this research shows that schools are at least partly responsible for high student turnover and, consequently, should help address the problem.

THE PRESENT STUDY

The present study examines student mobility among students and schools in California. The issue of mobility may be especially important in California because the state has a highly mobile population. Many residents have moved to the state from other states or from other countries (Rumbaut, 1995). As a result, school enrollment continues to rise. Over the 20 year period from 1985 to 2006, California public school enrollment is expected to increase by more than 50 percent (California State Department of Finance, 1997). California has also enacted several recent educational policies, including open enrollment, zero tolerance, and class size reduction, which may contribute to student mobility. We discuss these policies and their relationship to mobility in the concluding chapter.

This study examines student mobility in California from two perspectives: students and schools. The student perspective considers mobility as it relates to students and their families. The school perspective considers mobility as it relates to schools and classrooms. Both perspectives are important to understand and to address this problem because, as the present study reveals, mobility is more prevalent among some students and some schools than among others. This study focuses on mobility during secondary school because prior research on mobility suggests that secondary school mobility is often initiated by students and schools rather than families, and that secondary school mobility hurts student achievement (Rumberger & Larson, 1998a; Rumberger & Larson, 1998b).

We examined three important aspects of student mobility—incidence, consequences, and causes—as they apply to students and to schools. More specifically, the study addressed the following questions:

1. What is the incidence of mobility among California students and California schools? How does the incidence vary among types of students and schools?

2. What are the educational consequences of student mobility for students and for schools?

3. What are the causes of student mobility for students and for schools? To what extent do families and schools contribute to the problem?

4. What strategies can be used by families, schools, community agencies, and the state both to reduce the incidence of "needless" mobility and to mitigate the potentially harmful effects of student mobility that does occur?

EXISTING RESEARCH

Existing research on student mobility is limited and most of it has examined mobility as a student rather than a school phenomenon. In addition, much of the research from the student perspective has focused on the educational consequences of mobility, with relatively little focusing on causes. But there is a variety of related research—both theoretical and empirical—that can be used to better understand this issue. This research focuses on other, related phenomena, such as student achievement and school dropouts. It can help explain why students change schools and why student mobility can impact educational achievement. Research on school effectiveness can also provide explanations of why some schools have high mobility rates and why student mobility affects school as well as student performance.

Mobility as a Student Phenomenon

Theoretical Perspectives. Because student mobility is often viewed as a result of family circumstances, particularly families changing residences, there has been little theoretical research on the causes of student mobility. While residential mobility may be the primary cause of student mobility during elementary school, it may be less important during secondary school because students and schools can initiate school changes. Thus some scholars have argued that student mobility at the secondary level can be understood using theories of student dropout and institutional departure. Existing theories suggest dropping out of school is but the final stage in a dynamic and cumulative process of disengagement (Newmann, Wehlage, & Lamborn, 1992; Wehlage et al., 1989) or withdrawal (Finn, 1989) from school that is influenced by both social and academic factors.

Existing theories can also be used to understand the consequences of mobility on students' psychological, social, and academic functioning in their new schools. For example, transfer students face a number of challenges in adjusting to a new school settings, including the psychological challenge of coping with a new school environment (Holland et al., 1974), social adjustment to new peers and social expectations (Schaller, 1975) and adjustment to new academic standards and expected classroom behaviors (Jason et al., 1992).

Theories of student dropout and transfer-student adjustment identify some common aspects of the causes and consequences of student mobility: (1) the strong relationship between the social and academic dimensions of a student's functioning in school and their joint impact on student achievement; (2) the role of both schools and families in influencing these dimensions; and (3) the importance of identifying differences among students in the causes of their mobility and their ability to cope with a school change, in part, to tailor intervention strategies to better address these differences.

Although these perspectives are useful for understanding student mobility in a general sense, other theories can help explain why the causes of student mobility, like other student outcomes, vary among students from different ethnic, immigrant, and social class backgrounds. Existing theories can be classified into two general perspectives: (1) a socioeconomic perspective, and (2) a sociocultural perspective. In the socioeconomic perspective, differences in student outcomes can largely be explained by differences in parental income and education because parents with more income and education invest more time and resources in their children, which influences their children's preferences for education, cognitive skills, and, ultimately success in school (Haveman & Wolfe, 1994). In a sociocultural perspective, differences in student outcomes can largely be explained by differences in how specific ethnic groups perceive and interpret their chances for success in school. Some ethnic groups (e.g., European- and Asian-Americans) "do not perceive learning the attitudes and behaviors required for school success as threatening their own culture, language, and identities," while other ethnic groups (Blacks and Latinos) "...do not seem to be able or willing to separate

attitudes and behaviors that result in academic success from those that may result in linear acculturation or replacement of their cultural identity with White American cultural identity" (Ogbu, 1992 pp. 9-10). These two perspectives are not mutually exclusive. Rather, both offer useful insights into understanding differences in educational achievement among students from different ethnic, immigrant, and social class backgrounds (Farkas, 1996; Portes & Rumbaut, 1990; Rumberger & Larson, 1998b).

To summarize, each of the theories reviewed above provides some insights into understanding student mobility, but each offers only limited insight. Dropout theories attempt to explain why students withdraw from school altogether, but not why some students withdraw from a particular institution. Psychological theories help to understand the consequences of student mobility by focusing on the psychological well-being as well as the social and academic functioning of transfer students. Socioeconomic and sociocultural theories explain differences in educational achievement among racial groups, but do not address the issue of either student mobility or dropping out specifically.

Empirical Research. Only eight studies have examined the causes or consequences of student mobility during high school. Two of these focused on the causes of mobility. The first study examined predictors of school and residential mobility between the 5th and 10th grades and its impact on high school graduation with a specific focus on family structure (Astone & McLanahan, 1994). The study found that students from single parent and step-parent families were more likely to change schools and less likely to complete high school than students from two parent families, even after controlling for differences in socioeconomic status. The second study compared high school sophomores who remained in school, transferred, or dropped out between the 10th and 12th grades (Lee & Burkam, 1992). After excluding students who said that they transferred schools because their families moved, the authors found that the three groups of students differed significantly from each other in important ways: dropouts had the lowest test scores, the highest absenteeism, the most at-risk behavior, and the least amount of homework reported; transfer students were significantly

"better" than dropouts in these areas, while students who remained in the same school were significantly "better" than transfer students in these areas. These findings suggest that the Finn's and Wehlage's models of dropping out would explain differences between transfers and dropouts as simply reflecting the degree of participation and engagement in school: the most engaged students remain in their school, the least engaged drop out, and those in between transfer to another school. Yet even controlling for these differences as well as differences in social class, Lee and Burkam found that African-American and Latino students were more likely to transfer than white students, suggesting that cultural differences may also be important.

Six additional studies examined the relationship between student mobility and high school achievement. One early study based on 1970 Census data found that among children 16 and 17 years old, those who had lived in one state were less likely to be below their modal grade in school than children who had lived in three or more states, even after controlling for differences in family socioeconomic status (Long, 1975). Another study of 11th grade students attending one California high school found that high mobility (attending school in four different cities) students with high intelligence had good academic achievement, while high mobility students with low intelligence had poor academic achievement (Whalen & Fried, 1973). The third study examined dropout and mobility rates among the 1982 high school graduating class in Chicago (Hess & Lauber, 1985). The authors found that three-quarters of all 9th grade entering students finished their high school careers in the school where they first enrolled (p. 42). They also found that 56 percent of students who transferred to another Chicago high school dropped out compared to 40 percent for students who did not transfer (p. 44). Another study examined the relationship between residential mobility and high school completion for a cohort of children who were tracked from early childhood to young adulthood (Haveman & Wolfe, 1994). Researchers found that mobility reduced the odds of high school graduation even after controlling for a variety of family background variables. Finally, two recent studies examined the incidence of student mobility for a representative sample of 8th graders in 1988, one in the US (Rumberger & Larson, 1998a) and one in California (Rumberger et al., 1998).

Both studies found that almost one-quarter of all 8th grade students in the U.S. and almost one-third of students in California changed schools (excluding promotions from middle to high school) in the four-year period since 8th grade. Moreover, student mobility reduced the odds of graduating from high school by more than 50 percent.

To summarize, the empirical literature on the causes of student mobility during high school suggests that both family factors and school factors contribute to student mobility. These studies also support the theoretical propositions that mobility reflects a less severe form of disengagement from school.

Mobility as a School Phenomenon

The research literature on mobility from an institutional perspective is even more limited than research from the student perspective. One reason that student mobility has not received much attention as a school-related phenomenon is that it is often associated with family relocation or residential mobility, which schools can do little about. However, as highlighted earlier, existing empirical research suggests that schools contribute to student mobility (Bowditch, 1993; Fine, 1991; Kerbow, 1996; Lee & Burkam, 1992; Wehlage & Rutter, 1986).

Although research on student mobility from the school perspective is scarce, there is a large body of research on the more general issue of student achievement from an institutional perspective. In fact, there has been a long-standing debate in the research community over the extent to which schools contribute to student achievement. The debate began with the publication of the Coleman report in 1966, which claimed that student achievement was largely attributable to students' socioeconomic background and not their schools (Coleman et al., 1966). But since that time, a growing body of evidence has demonstrated that schools differ dramatically in their effectiveness (Bridge et al., 1979; Hanushek, 1986; Murnane, 1981).

Existing research has identified several types of factors that account for differences in school performance: (1) student characteristics, (2) school resources, (3) structural characteristics of schools, and (4) school processes and practices. The first three factors are sometimes considered as

school "inputs" by economists and others who study schools because they refer to the inputs into the schooling process as largely "given" to a school and therefore not alterable by the school itself (Hanushek, 1989). The last factor refers to practices and policies that the school does have control over and thus they are of particular interest to school practitioners and policymakers (Shavelson et al., 1987; Willms, 1992). However, as we describe below, the distinction between alterable and unalterable characteristics of schools is less clear-cut from the perspective of the educational system as a whole, suggesting that a much larger share of the differences between schools could be reduced through educational policy.

In summary, although empirical research on student mobility from both the student and school perspectives is limited, there is a robust theoretical and empirical literature on student achievement and school effectiveness that can provide a useful framework for studying this issue. We drew on this literature in carrying out this study.

RESEARCH METHODS

Because so little is known about student mobility, this study was carried out with two research designs, one quantitative using survey data and one qualitative using interview data. The two designs are complimentary in that each was suitable for helping to answer some of the study's research questions, but neither design alone provided as satisfactory an answer as the two designs combined. Because the survey data came from statistical probability samples, they were particularly useful in documenting the incidence, consequences, and causes of student mobility among the California student population as a whole. The interview data were particularly useful in helping to better understand how students, parents, and school personnel viewed the problem of mobility, such as understanding the reasons why students changed schools and how those reasons varied among different types of students. Moreover, survey data sets contain limited information on the highest risk students and families who are highly mobile simply because it is often difficult to include them in the surveys.

Data and Samples

Survey Data. The quantitative study was conducted using two existing data sets from the National Center for Education Statistics (NCES). The first data set came from the National Education Longitudinal Study of 1988 (NELS), a national longitudinal panel study of a cohort of 8th graders begun in 1988 (Carroll, 1996). The NELS:88 data are particularly suited to study mobility because they contain extensive information about the educational background and achievement of students over time, including information on both school and residential mobility during the high school years between 1988 and 1992. NELS base-year data were collected in 1988 and follow-up data were collected in 1990, 1992, and 1994 on a subset of base-year respondents. Follow-up students were tracked whether they remained in school or dropped out, as long as they continued to reside in the United States.

Data for the present study were drawn from the panel of base-year students who were re-surveyed in 1990, 1992, and 1994 (N=13,120) and for whom NCES computed panel weights in order to provide an accurate population estimate. We excluded 1,449 respondents from the panel who did not have valid information on the number of school changes between 1988 and 1992, resulting in a final sample of 11,671 respondents (see Table 1.1).[2] The California sample consisted of 1,114 respondents. Thus we were able to compare the incidence, consequences, and causes between California and non-California residents.

Table 1.1
Sample Sizes for the Survey Data

	National Sample	California Sample
1. NELS		
Students	11,671	1,114
2. HSES		
Schools	247	51

[2]Other variables with missing values were given the mean value if the variable was continuous and zero if the variable was a dummy. We also created a missing variable flag students who were missing base year information and another missing variable flag for students who were missing second-follow-up information. We included the two flag variables in the regressions, but do not report them in the tables.

Students	7,642	1,604

Because California is a large state, the California sample was relatively large and appeared to be fairly representative of the entire California population. We examined the racial and ethnic distribution of respondents used in our study to State Department of Education data on student enrollments from 1988, the first year of study. The distributions, shown in Appendix Table A.1, are fairly similar, which suggests that our sample of California survey respondents can be used to make accurate estimates of mobility among California students. However, because the NELS study excluded students who were unable to fill out a questionnaire in English during the first year (base-year) of the study, Limited English Proficient (LEP) students are underrepresented in the California NELS sample. To the extent that mobility rates among LEP students were higher than other students, the results could underreport student mobility among California students.[3]

Another potential limitation of the NELS data concerns attrition from the NELS panel. The NELS study only tracked about 60 percent of the base-year respondents over the entire six years of the study and less than 50 percent of the original base-year sample had complete data for the present study. This raises the question of whether attrition may have resulted in a biased sample of students, especially considering that mobile students—the subject of this study—may have been more likely to leave the NELS study. To investigate this issue, we compared the sample of California respondents (N=1,114) used in this study with the sample of base-year California respondents who were not included (N=1,540) on a number of 8th grade family and student background measures.[4] We found that there were no significant differences in socioeconomic status and parental education between the two samples, but there were significant differences in family structure, student achievement, and

[3] To investigate this issue, we compared the reported mobility rates among these so-called base-year ineligible Latino students (who were brought back into the NELS study in 1990, but who excluded from the present study because they lacked base-year information) with the NELS Latino students in our study. We found that, indeed, the excluded base-year students reported higher rates of mobility than the base-year students included in our study, although the differences were not statistically significant due to the small number of California base-year ineligible students (n=61). Thus our analysis probably understates the extent of mobility among Latino and Asian students.

[4] Theses comparisons were based on base-year student weights adjusted for design effects.

elementary school mobility. However, student weights for respondents retained in the longitudinal panel were readjusted to reflect differential response rates, which reduced the apparent bias in the samples.[5]

The second data set came from the National Education Longitudinal Study of 1988 High School Effectiveness Study (HSES). The HSES is a subset of 247 high schools and 7,642 students from the 1990 NELS survey located within the 30 largest Metropolitan Statistical Areas (MSAs) nationwide as defined by the U.S. Census. Fifty-one of the high schools were located in California (see Table 1.1).[6] Like NELS, the HSES contains a rich assortment of data on students, their parents and teachers, and their schools, including information on a wide range of school practices, policies, and other characteristics. The data, although similar to the NELS, are unique in that they allowed us to examine the issue of student mobility from a school perspective by looking at the attrition of students between the 10th and 12th grades within schools. Thus we were able to examine differences in the rate of student mobility among high schools and, more importantly, the extent to which these differences are due to student characteristics--and thus beyond the control of schools--and the extent to which they are due to school policies and practices.[7]

Interview Data. Two samples were interviewed in this study. The first sample consisted of students and their parents. For the student and family sample, we selected a diverse group of middle to low-income high school students and their parents from five ethnic groups—non-Latino White, Black, Latino, Korean, and Vietnamese—because recent research suggests that these groups have

[5] For example, 39 percent of the retained California students reported no elementary school mobility between the first and eighth grades, compared to 29 percent of the excluded California students based on the base-year sample weight. However, 35 percent of the retained California students reported no elementary school mobility based on the longitudinal panel weight.

[6] The 51 California schools were selected from seven MSAs in California: San Francisco, Oakland, San Jose, Los Angeles, Riverside, Long Beach, and San Diego.

[7] The analyses were based on unweighted samples of both schools and students, in part, because (1) the multi-level modeling technique used in this study did not permit weighting at the student level and (2) the school-level weights had a very wide range, which produced highly unstable estimates of school-level predictors of school mobility rates. Although the resulting estimates strictly pertain only to the schools and students in the samples, controlling for many of the characteristics of schools and students used to select the samples should yield fairly representative estimates of school dropout and turnover rates among urban and suburban schools.

very different experiences and rates of success in American schools due to differences in their assimilation into American society (Portes & Rumbaut, 1990). We identified students by contacting schools and community agencies in the Los Angeles area and selecting students who had made at least one non-promotional school change since the 7th grade. Students and one parent or guardian were interviewed for approximately one hour each using an interview protocol developed from a conceptual framework described below. We interviewed a total of 37 family members—19 students and 18 parents (4 males, 14 females). Demographic characteristics of the student and family sample are shown in Table 1.2.

As one might expect, immigrant and second generation students are included among the Latino and Asian-American interviewees. Two of the Latinos in our sample are immigrants—one from El Salvador, the other from Guatemala. Another Latino interviewee is the U.S.-born son of Mexican immigrants. Among the Asian interviewees, all four Vietnamese-American students are immigrants, two of whose parents were political prisoners granted asylum in the United States. Both male Korean-American interviewees are immigrants. One came to the U.S. directly from Korea. Another, born in Korea, lived in Argentina for a number of years before immigrating to the U.S. in 10th grade. Both Korean-American female interviewees were the daughters of immigrants, both having returned to Korea for more than a year before re-entering the United States. The non-Latino White and African-Americans were neither immigrants nor second generation students. Their families had lived in the U.S. for many generations.

Table 1.2
Characteristics of Student Interview Sample

Ethnicity	Gender	Grade	Country of Origin/Immigrant Status	Number of High School Changes
African-American	Male	9	U.S.	1
African-American	Female	11	U.S.	2
African-American	Female	11	U.S.	1
Korean-American	Male	11	Korea	1
Korean-American	Male	10	Korea	2
Korean-American	Female	12	2nd generation	4
Korean-American	Female	11	2nd generation	8
Latino	Male	12	Guatemala	2
Latino	Male	10	2nd generation	1
Latino	Female	10	El Salvador	9
Latino	Female	12	U.S.	9
Non-Latino White	Male	11	U.S.	3
Non-Latino White	Male	11	U.S.	2
Non-Latino White	Female	11	U.S.	1
Non-Latino White	Female	11	U.S.	3
Vietnamese American	Male	11	Vietnam	1
Vietnamese American	Male	10	Vietnam	3
Vietnamese American	Female	12	Vietnam	2
Vietnamese American	Female	12	Vietnam	2

The second sample consisted of 32 school personnel—principals, counselors, and teachers—from two middle schools and eight high schools located in one urban and one suburban school district. The schools varied in their student makeup from large, high-minority, urban high schools to smaller, more affluent suburban middle and high schools (see Table 1.3). The interview protocol used to conduct these interviews was also developed from the conceptual framework, but in this case we focused on the phenomenon of student mobility from the school's perspective. We were interested in how school personnel viewed this problem—how prevalent it was in their schools, the reasons for its prevalence, and its consequences on their schools and classrooms. We also wanted to know how schools were attempting to cope with the problem.

Table 1.3

Characteristics of the School Interview Sample

	School									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Location										
Urban		x	x		x	x	x	x	x	x
Suburban	x			x						
Grade Level										
6-8								x		x
9-12	x	x	x	x	x	x	x		x	
Size										
1000 - 2000								x		x
2000 - 3000	x		x	x					x	
3000 - 4000		x			x	x	x			
Ethnicity (%)										
Non-Latino White	15	20	26	22	39	0	2	28	0	14
Latino	71	51	47	62	25	77	73	60	18	31
African-American	7	4	12	7	6	23	15	5	81	27
Asian	2	21	12	3	27	0	8	4	0	24
Other	5	5	3	6	3	0	2	3	1	4
Free/Reduced Lunch (%)	42	42	41	37	22	62	67	75	63	34
Average SAT Scores										
verbal	477	538	507	504	485	348	399	-	382	-
math	471	559	499	517	525	356	441	-	373	-

Note: California's average SAT scores in 1997 were verbal = 495 and math = 511.

Conceptual Frameworks

To conduct the present study we developed two conceptual frameworks based on the existing theoretical and empirical research reviewed above. The first conceptual framework, shown in Figure 1.1, was used to understand student mobility from the student perspective.

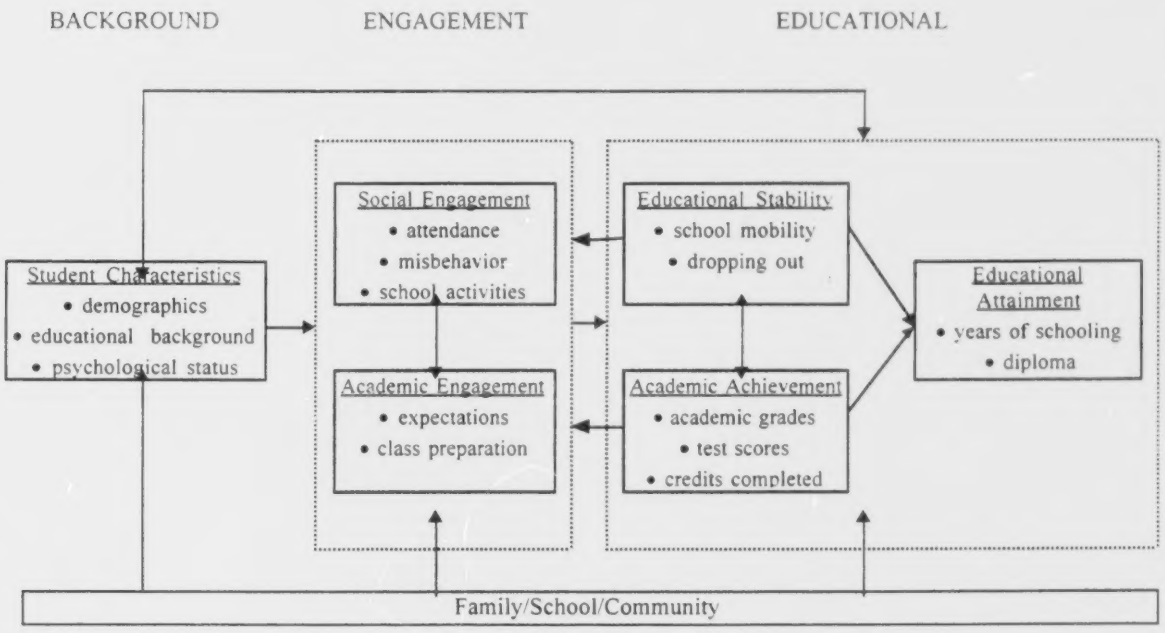

Figure 1.1
Conceptual Framework for Studying School Mobility from the Student Perspective

This framework posits that school mobility is one aspect of educational stability that influences both academic achievement and educational attainment. Students who are educationally stable remain enrolled until completing high school and typically attend one elementary school, one middle or junior high school, and one senior high school. Students can interrupt their schooling by either changing schools or changing their enrollment status (i.e., quitting school or dropping out). Some school changes may be beneficial—if, for instance, students move to a better school. But other

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school changes may be detrimental—if, for instance, students change schools because they cannot get along with other students or teachers and those problems continue to exist at the new school. The conceptual framework further posits that both educational stability and academic achievement are influenced by students' academic and social engagement in school, which are reflected in students' attitudes and their behaviors. Finally, the framework suggests that student stability is both a cause and a consequence of engagement in school.

The second conceptual framework, shown in Figure 1.2, was used to study student mobility from the school perspective. This conceptual framework views student mobility both as a student-level and a school-level phenomenon. At the student level, mobility is influenced by students' engagement in school and family background characteristics, similar to the earlier conceptual framework. At the school level, mobility results from the aggregated performance of all the students within a school and is a function of the characteristics of the school and its impact on the individual engagement and experiences of the students within that school. The reason for incorporating both perspectives in the model is to disentangle the individual or student-level effects of student mobility from the school-level effects of student mobility. Both aspects are important as we report in later chapters, schools can alter the school-level effects of student mobility, but not the student-level effects.

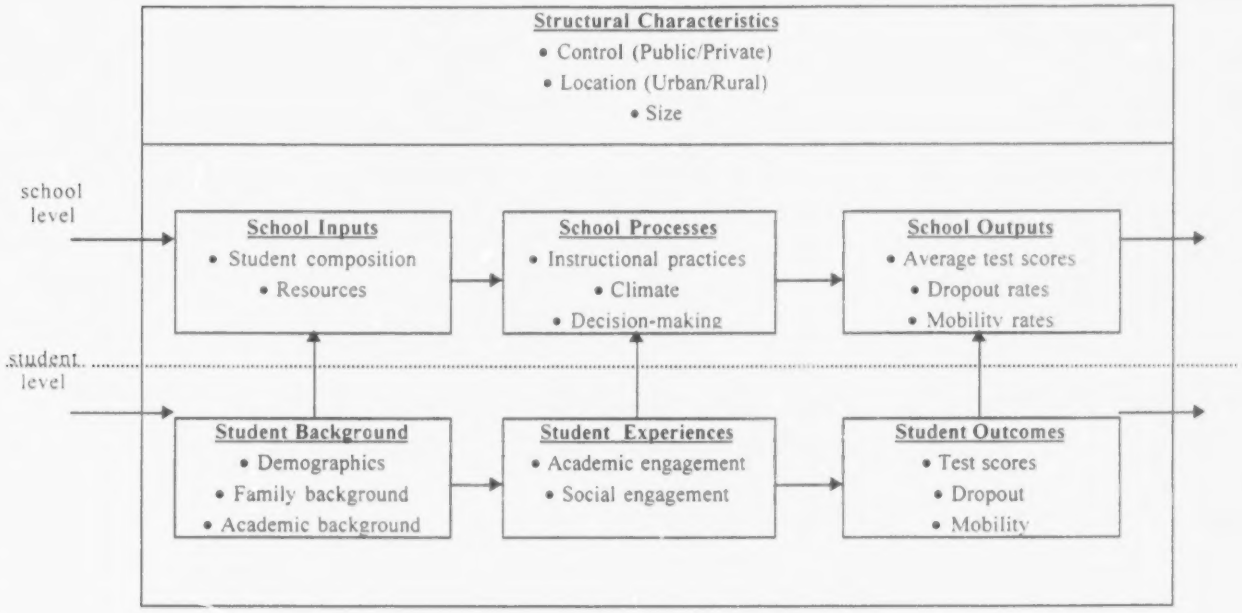


Figure 1.2
Conceptual Framework for Studying School Mobility from the School Perspective

Analytic Methods

We used both statistical and qualitative analytic techniques to conduct this study. Three statistical techniques were used to analyze the NELS and HSES data. First, descriptive statistics of the NELS data were used to compare different groups of students with respect to the incidence, consequences, and causes of student mobility, including differences among Asian, Latino, and non-Latino White students in California and in the rest of the United States.[8] We computed tests of statistical significance between groups. Second, two multivariate statistical models based on the student conceptual framework were tested using the NELS data, one to predict whether students changed schools between 1988 and 1992 and the other to predict whether students completed high school by 1994.[9] The variables used in these models are described in detail in Appendix Table A.2. Third, the HSES data were analyzed using a new statistical technique, known as multi-level or

[8] Due to the small size of the California sample, it was not possible to analyze differences among African-American students or among other sub-groups, such as immigrants and non-immigrants. But these relationships were investigated in the multivariate analysis.

Hierarchical Linear Models (HLM), which was specifically designed to model the effects of both student-level and school-level variables on student outcomes (Bryk & Raudenbush, 1992).[10] Two statistical models based on the school conceptual framework were tested using the HSES data, one to predict school mobility rates and the extent to which they are attributable to student characteristics or school characteristics, and the other to predict school test scores and the extent to which they are attributable to student mobility.[11] The variables used in these models are described in Appendix Table A.6.

The interview data were analyzed through a process of data coding and data reduction. One of the more difficult tasks in qualitative analysis is getting one's arms around a vast amount of data in a systematic manner. Given that the interviews for this study were conducted by a team of investigators—two of whom analyzed the data—particular attention was paid to conducting formalized, comparable data collection and analysis (Herriott & Firestone, 1983). Without a consistent approach to qualitative data collection and analysis and a set of consistent ground rules for drawing conclusions from the data, the validity of its conclusions may be suspect:

> *The most serious and central difficulty in the use of qualitative data is that methods of analysis are not well formulated. For quantitative data, there are clear conventions the researcher can use. But the analyst faced with a bank of qualitative data has very few guidelines for protection against self-delusion, let alone the presentation of unreliable or invalid conclusions to scientific or policy-making audiences* (Miles & Huberman, 1984, p. 16).

With this concern in mind, the dozens of interviews conducted in this study, which produced hundreds of pages of transcript data, were analyzed through a consistent two-pronged analytical approach. First, data were categorized conceptually to reflect the incidence, consequences, causes and policy implications of student mobility. Second, interview data was analyzed for emergent

[9] As suggested by NCES (Ingles et al., 1992)}, we created design-effect adjusted weights and used them to estimate the logistic regression models and accurate tests of statistical significance.

[10] To date, most HLM has been restricted to analyzing continuous outcomes, such as test scores. But recently HLM has been extended to include Hierarchical Generalized Linear Models (HGLM), which provide more appropriate estimates for dichotomous dependent variables, such as dropout and turnover rates.

[11] In the mobility models the coefficients in the level-1 models were fixed and centered on the grand mean so that the level-2 coefficients estimated the effects of school-level variables after controlling for the individual effects of

themes, some of which fit within the conceptual categories noted above, and some of which did not. The deductive analytical approach based on pre-existing conceptual categories and the more inductive analysis through which emergent themes were identified enabled consistent and comprehensive interview analysis.

ORGANIZATION OF THE REPORT

The remainder of this report presents our research findings and discusses their implications. Chapter 2 examines the extent of student mobility among California students and schools. Chapter 3 analyzes the consequences of mobility for both students and schools. Chapter 4 analyzes the causes of mobility among students and schools. Chapter 5 discusses what can be done about student mobility.

student background characteristics. In the test score models, the coefficients in the level-1 models were fixed, but centered on the group mean so that the level-2 coefficients estimated the total effects of the school-level variables.

Chapter 2

THE EXTENT OF STUDENT MOBILITY IN CALIFORNIA

How widespread is the phenomenon of student mobility? In this chapter we answer this question both for students and schools. If student mobility was not commonplace, then it might not warrant the attention of educators and policymakers. But as we show below, student mobility is widespread: a large percentage of students in California are mobile and some California high schools experience extremely high rates of student mobility. These results underscore the importance of this issue for California education.

THE EXTENT OF MOBILITY AMONG STUDENTS

In order to measure the extent of mobility among California students, it is first necessary to define what it means. Although almost all students change schools when they graduate from one school level to another, such as from elementary school to middle or junior high school, in this study we focus on unscheduled school changes that do not involve promotion from one school level to another. Specifically, we define ***student mobility*** (and the term school mobility, which we use interchangeably) as ***school changes other than those due to promotion from one school level to another***. Student mobility, in this case, occurs when a student enrolls in the first grade level of a school and then transfers to another school before graduating or completing that school.

Generally, information on student mobility comes from two sources. One is from schools. Schools typically monitor the enrollment patterns of their students, in part, to help identify students who drop out or transfer in and out of their schools. But generally, schools cannot easily tell whether students who leave school early actually transfer or simply drop out (Hammack, 1986). The other source of data on student mobility comes from surveys of parents and students. In surveys, students and parents can report how often they move residences and change schools.

Such questions were included in the NELS surveys that were used in this study. In the 8th grade survey (1988), parents were asked to identify how many times their children changed schools between grades 1 and 8, excluding changes due to promotion from one school to another. In the 12th grade survey (1992), parents again were asked how many times their adolescents changed schools between the 8th and 12th grades, also excluding changes due to promotion. In the 12th grade survey, students and dropouts were also asked how many times they had changed schools over the previous four years. In this study, students (and dropouts) in the 12th grade survey reported more school mobility than parents. We attribute these differences to some parents not being fully aware of the educational experiences of their adolescents, especially when students are enrolled in high school.[12] The gap between parent and student reports of school mobility was greater among Asians and Latinos than among non-Latino whites. This may be due to the fact that a high proportion of Asians and Latinos come from immigrant households where students are more likely to know English and to understand the school system and, as a result, are more likely to make educational decisions on their own (Delgado-Gaitan, 1990; Valdez, 1996). Based on this assumption we concluded that students were more knowledgeable than parents about their school changes during secondary school and, thus, we relied on student reports of mobility between the 8th and 12th grades.

The NELS data provide a picture of student mobility as reported by one cohort of students—students who were enrolled in the 8th grade in 1988—over their entire elementary and secondary careers. The number of non-promotional school changes reported by the 1988 8th grade cohort is shown in Table 2.1. In the U.S. overall, more than 50 percent of all students had changed schools at least once between the 1st and 8th grades and 20 percent had changed schools 3 or more times over this seven year period. At the secondary level, more than 25 percent of all students changed schools at least once between the 8th and 12th grades. These figures confirm the common perception that American students are highly mobile: during the 12 years of elementary and

[12] In the California sample, 22 percent of the parents reported that their adolescent had made a non-promotional school change between grades 8 and 12, while 34 percent of the students reported making a non-promotional school change.

secondary school more than 60 percent of students made at least one non-promotional school change.

Table 2.1
Number of Non-Promotional School Changes by Grade Level and California Residency

(percentage distribution)

	California	Other States	U.S. Total
Grades 1-8*			
0	35	47	46
1	26	23	23
2	12	10	10
3 or more	26	20	20
Grades 8-12*			
0	66	74	73
1	22	17	17
2 or more	12	9	9
Total Grades 1-12*			
0	27	40	39
1	25	22	22
2	15	12	13
3 or more	33	26	26
Total	100	100	100

*Differences between California and other states statistically significant at .05 level.
NOTE: School changes from grades 1-8 based on data from 8th grade parent questionnaire. School changes from grades 8-12 based on data from 12th grade student questionnaire. School changes exclude those due to promotion from elementary to middle school and from middle school to high school.
SOURCE: National Education Longitudinal Survey of 1988, 8th grade panel from the 1994 third follow-up survey.

The figures also show that California students were more mobile than students in the rest of the nation. Sixty-five percent of California students changed schools between the 1st and 8th grades, compared to 53 percent of students in other states. And more than 26 percent of California students changed schools 3 or more times, compared to less than 20 percent of students in the rest of the nation. At the secondary level, 34 percent of California students reported changing schools between the 8th and 12th grades, compared to 26 percent in other states. All of these differences are stastistically significant. Student mobility rates between grades 8 and 12 varied among students from some backgrounds, but not from others (Table 2.2). Mobility rates did not vary among ethnic groups, but they did vary among income and socioeconomic groups. Students from lower income and lower socioeconomic status families were more mobile than students from higher income and higher

SES families. For example, only 22 percent of students from high-income ($50,000 or more) changed schools between grades 8 and 12, compared to 51 percent for students from low-income (less than $15,000) families. Mobility rates also differed by family structure: students from two-parent households were less mobile than students from single-parent or other types of households. Mobility also varied by immigrant status, although in unexpected ways. Second generation students were less mobile than either immigrant or 3rd generation students, although 3rd generation students were more likely than other students to have changed high schools two or more times. Finally, mobility rates did not vary by school location.

We also investigated whether students who were more mobile during elementary school (in grades 1-8) were more mobile during high school (in grades 8-12). We found there was little relationship for students who had made one or two school changes during elementary school (Table 2.3). But students who were highly mobile during elementary school, making 3 or more non-promotional school changes over an 8 year period, were twice as likely to change high schools as students who were only moderately mobile. Since 26 percent of California students reported 3 or more school change during grades 1-8 (Table 2.1) and about half of those report at least one school change during grades 8-12 (Table 2.3), we conclude that about 14 percent of California school children could be labeled "chronically mobile" throughout their educational careers. Because such students have attended so many schools over their school lives, we further conclude that these students may suffer from both instability in their home lives and instability in their school lives, putting them at the greatest risk of educational failure.

Table 2.2
Non-Promotional School Changes in Grades 8-12 by Demographic Characteristics: California Students

	% of sample	Number of non-promotional school changes (percentage distribution)		
		0	1	2 or more
Ethnicity				
Asian	14	70	25	5
Latino	30	64	24	12
White	56	69	18	13
Family Income*				
Less than $15,000	20	49	36	15
$15,000-$34,999	30	69	19	12
$35,000-$50,000	21	70	15	15
$50,000 or more	29	78	18	4
SES Quartile*				
1st Low	24	56	23	21
2nd Lower middle	23	65	27	9
3rd Upper middle	24	69	18	13
4th High	30	72	20	8
Family Structure*				
Two-parent	62	71	22	7
Single-parent	16	65	19	16
Other	22	52	24	24
Immigration Status*				
Immigrant	14	62	33	5
2nd generation	21	74	18	8
3rd generation	65	64	21	15
Location				
Urban	26	63	24	14
Suburban	65	67	21	12
Rural	8	70	22	9

*Differences between sub-groups (e.g., Asians, Latinos, Whites) statistically significant at .05 level.
NOTE: School changes from grades 1-8 based on data from 8th grade parent questionnaire. School changes from grades 8-12 based on data from 12th grade student questionnaire. School changes exclude those due to promotion from elementary to middle school and from middle school to high school.
SOURCE: National Education Longitudinal Survey of 1988, California 8th grade panel from the 1994 third follow-up survey.

Table 2.3
Relationship between Student Mobility in Grades 1-8 and Student Mobility in Grades 8-12: California Students

(percentage distribution)

	Number of school changes grades 1-8			
Number of school changes grades 8-12*	0	1	2	3 or more
0	77	71	71	48
1	19	19	21	29
2 or more	4	10	8	24
Total	100	100	100	100

*significant at .05 level.
NOTE: School changes from grades 1-8 based on data from 8th grade parent questionnaire. School changes from grades 8-12 based on data from 12th grade student questionnaire. School changes excluding those due to promotion from elementary to middle school and from middle school to high school. Tabulations exclude respondents with missing mobility data, which represents approximately 11 percent of the sample.
SOURCE: National Education Longitudinal Survey of 1988, California 8th grade panel from the 1994 third follow-up survey.

THE EXTENT OF MOBILITY AMONG HIGH SCHOOLS

Student mobility not only affects students, it affects schools. In fact, the entire phenomenon of student mobility can be viewed from the perspective of a school. Each year high schools enroll a new cohort of students who enter at the beginning of the first year and are supposed to stay until graduation at the end of the last year. In the case of four-year high schools, a cohort of students enters the 9th grade at the beginning of the school year and graduates from the 12th grade four years later (see Figure 2.1). But of course, not all students who enter high school remain there all four years. Some students transfer to another school while others drop out, or quit school altogether. We refer to students who leave their initial school before completion as outgoing mobile students. Still another group of students may enter high school after the beginning of 9th grade. Most of these students probably entered another school originally before transferring to a new school. These students, who we refer to as incoming mobile students, may remain in their new school until they

graduate or leave before graduation. In this study, we focused on students who were enrolled in high school in the 10th grade and studied differences between students who remained in school until 12th grade (stable students) and students who left in the two year period between the 10th and 12th grades (outgoing mobile students).

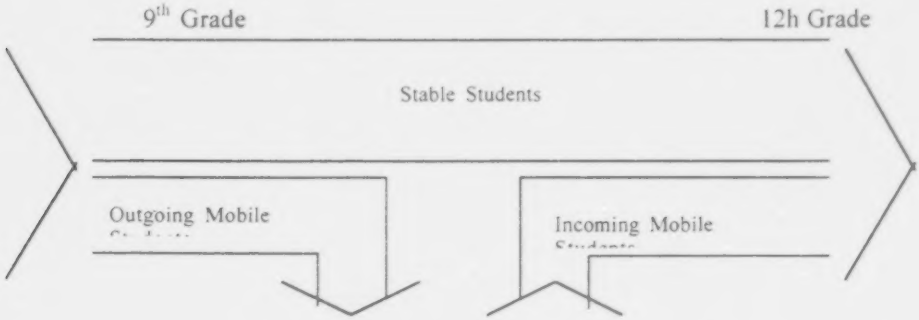


Figure 2.1
Student Mobility from the School Perspective

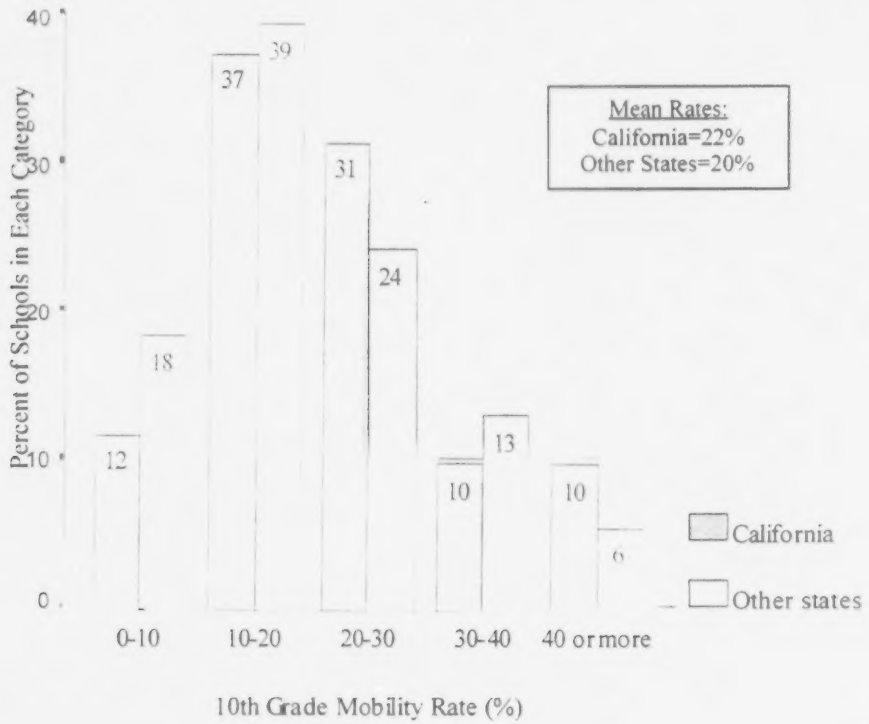
We first estimated the mobility rate of 10th grade students from our sample of 247 urban and suburban high schools in the U.S. The 10th grade student mobility rate for each school was simply the percentage of 10th grade students who left the school over a two-year period from 1990 to 1992. The distribution of 10th grade mobility rates for the sample of high schools in California and in the rest of the United States is shown in Table 2.2.

The average mobility rate for the entire sample of schools was 20 percent. That means the average high school in the United States lost 20 percent of its 10th graders over a two-year period. The average for California high schools was slightly higher—22 percent. But as the figure shows, student mobility rates varied widely among high schools. While a majority of high schools in California as well as in the rest of the United States had student mobility rates that averaged between 10 and 30 percent, a few schools had much lower or much higher rates. In particular, about 20 percent of the high schools both in California and elsewhere had student mobility rates in excess of

30 percent. And 10 percent of the high schools in California had mobility rates that exceeded 40 percent. These figures are consistent with other studies that have reported student mobility rates in excess of 30 or 40 percent per year in some U.S. schools (Ligon and Paredes, 1992; McDonnell and Hill, 1993).

NOTE: 10th grade student mobility rate equals the estimated percentage of 10th grade students who left school after two years.
SOURCE: National Educational Longitudinal Study of 1988: High School Effectiveness Study.

Figure 2.2
10th Grade Student Mobility Rates for California and non-California High Schools



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Some of the schools where we interviewed school personnel had high levels of student mobility. Mr. Jones, the principal of Caroledale High School[13], described his school's mobility as follows:

> *...and since I've been here it's well over 800 from July through December who have left. They have been replaced by 800 more coming in. We're about 3800 as far as active students right now... So you're constantly dealing with 1000 students leaving, 1000 students coming in.*

Mobility can also be viewed from the classroom level. Ms. Langston, a teacher at El Puente High School, described one of her classes in the following way:

> *I'm looking at my enrollment book right now of a freshman class that has about 40 students in it -- most of my classes have 40 kids. In the first four weeks... originally I had 31 students on the rollbook. I've had 7 drop and 6 add in the first four weeks. And that's common for every one of my classes -- the mean. In another class where I originally had 24 students I now have 32, with three dropping out. All these names that you see here are all additions. In period 5 I've had 13 drops in the first four weeks and I've had 7 adds in one period in a duration of 4 weeks.*

Student mobility rates varied among different types of schools (Table 2.4). Public schools had higher mobility rates than Catholic or other private schools. Public magnet high schools in the sample, although only 7 in number, had higher mobility rates than public high schools overall. This suggest that magnet programs, while offering unique programs, may have difficulty retaining students. Student mobility rates were also higher in large schools and in those with high concentrations of minority students and students from low SES backgrounds. Of course these differences may be due to differences in the types of students enrolled in the schools. The composition of schools varies widely in the United States and these differences can account for much of the variation in school outcomes (Orfield, 1993; Willms, 1992). In the next chapter, we investigate the extent to which the characteristics of students affect the student mobility rate of schools.

[13] All the names reported throughout this study are pseudonyms.

Table 2.4
10th Grade Student Mobility Rates by Selected School Characteristics: California Urban and Suburban High Schools, 1990

	Number of Schools	Student Mobility Rate
Overall	51	22
School type*		
Public	38	25
Magnet schools	7	34
Catholic	7	16
Private, other	6	12
Location		
Urban	32	23
Suburban	19	20
Size		
1-999	15	18
1000-1999	12	19
2000+	24	26
Minority composition*		
0-25%	3	13
26-50%	9	13
51-75%	17	22
76-100%	22	27
Mean Socioeconomic Status*		
Low	24	28
Middle	17	19
High	9	12

*Differences between sub-groups (e.g., Public, Catholic, Private other) statistically significant at .05 level.
NOTE: Mobility rates were derived from a one-way ANOVA model using non-linear HLM unit-specific residual estimates for each school.
SOURCE: National Educational Longitudinal Study of 1988:High School Effectiveness Study.

SUMMARY

Our analysis yielded several important findings about the extent of mobility among California students and schools.

First, California students, like students in the rest of the U.S., are highly mobile. In fact, more students from the high school graduating class of 1992 made non-promotional school changes during their elementary and secondary school careers than remained in a stable pattern of attending a single elementary, middle, and high school. School changes were more common during elementary

school than during secondary school. In fact, mobility is the norm during elementary school, while it is the exception during high school.

Second, mobility rates are generally higher in California than elsewhere in the nation. Almost 75 percent of California students made unscheduled school changes between grades 1 and 12 compared to 60 percent in the rest of the nation.

Third, student mobility is prevalent among all ethnic and immigrant groups in California. Mobility was clearly related to family income and socioeconomic status—low-income students were more mobile between the 8th and 12th grades than high-income students. Students from single-parent and non-traditional families were also more mobile than students from two-parent households.

Fourth, California high schools vary widely in their student mobility rates and have more schools with extremely high mobility rates than high schools in other states. In 1990 the average high school in California saw 22 percent of its 10th grade students leave before completing 12th grade. But some schools had mobility rates much lower than the state average while some schools had much higher mobility rates. One out of five high schools in California had student mobility rates in excess of 30 percent and one out of ten had student mobility rates in excess of 40 percent, compared to six percent in other states. We interviewed school personnel in such schools and they reported that such high rates of mobility greatly impacted their schools and generated considerable chaos for students, teachers, and school administrators.

Student mobility is clearly widespread in California. But how does it impact students and schools? The next chapter addresses this question.

Chapter 3

THE EDUCATIONAL CONSEQUENCES OF STUDENT MOBILITY

This chapter focuses on the educational consequences of student mobility. To ascertain the impacts of student mobility, we analyzed all four sources of data used in this study—student surveys, school surveys, student and parent interviews, and school interviews. To a large extent, the conclusions drawn from each data source converged—that is, they all told a similar story of how mobility impacts students. Overall, we found that student mobility often produces an array of negative psychological, social, and academic consequences for students. We also found that student mobility adversely affects schools and the people in them, from classroom teachers to school counselors and administrators. But surprisingly, we found that student mobility adversely affects the academic achievement of even non-mobile students if they attend high schools with high rates of student transience.

THE EDUCATIONAL CONSEQUENCES OF MOBILITY FOR STUDENTS

Within each set of data, we examined a wide array of possible consequences, ranging from impacts on student attitudes to impacts on student achievement. Below we report the findings from each set of data and then synthesize the findings from the various data sources to draw our main conclusions, described in the final section.

Results from the NELS

The NELS data measured a variety of student characteristics and educational outcomes of 1988 8th grade students over their high school careers—in 10th grade, 12th grade, and two years after 12th grade. We examined a number of these characteristics that our conceptual framework (Figure 1.1) suggested could be impacted by student mobility—psychological status, social and academic engagement, and educational achievement. Specifically, we compared students who made zero, one,

or two or more non-promotional school changes over the four-year period between grades 8 and 12. The results are shown in Table 3.1

Table 3.1
Educational Outcomes by Number of Non-Promotional School Changes in Grades 8-12, California Students

	Number of school changes			Total
	0	1	2 or more	
PSYCHOLOGICAL STATUS—12TH GRADE (1992)				
Locus of Control (mean)	.12	.04	.00	.09
Self-concept (mean)	.05	-.05	-.05	.02
ENGAGEMENT—12TH GRADE (1992)				
High Absenteeism (%)	15	.19	.28	.17
Academic Engagement (mean)	-.08	-.09	.05	-.07
No Extra Curricular Activity (%)*	.32	.45	.54	.37
Misbehavior (mean)*	-.10	.16	.18	-.02
ACHIEVEMENT				
Test Scores (means)—10th grade (1990)				
Math*	53	52	48	52
Reading	52	50	49	51
Science	52	52	48	51
Social Studies*	51	40	45	50
Completion Status (%)—2 years after HS (1994) *				
Graduated	93	76	59	85
Completed a GED	2	5	7	3
Did not complete	5	19	34	12
Total	100	100	100	100

*Differences between groups are statistically significant at the .05 level.
NOTE: School changes from grades 8-12 based on data from 12th grade student questionnaire. School changes exclude those due to promotion from elementary to middle school and from middle school to high school. Sample includes only those still enrolled in 1992.
SOURCE: National Education Longitudinal Survey of 1988, California 8th grade panel from the 1994 third follow-up survey.

The results show that mobility appears to affect some educational outcomes but not others. Stable students reported higher levels of psychological well-being in 12th grade—locus of control and self-concept—than mobile students, although differences were not statistically significant. But there were significant differences in two measures of social engagement in school during 12th grade—misbehavior and lack of participation in extracurricular activities. Mobile students were more likely to report incidences of misbehavior and less participation in extracurricular activities than stable students. Student mobility did not appear to be related to test scores, although we were only

able to examine test scores in the 10th grade because so many mobile students were missing test score information in 12th grade. The most profound impact of mobility was on graduation: students who changed high schools were much less likely to complete high school than students who remained in the same high school for four years. Ninety-three percent of students who remained in the same high school received a high school diploma, while only 76 percent of students who changed schools once and only 59 percent of students who changed schools more than once received a regular high school diploma. Students who changed schools even once were also more likely to receive a GED or high school equivalency as opposed to a regular diploma than students who remained in the same high school.

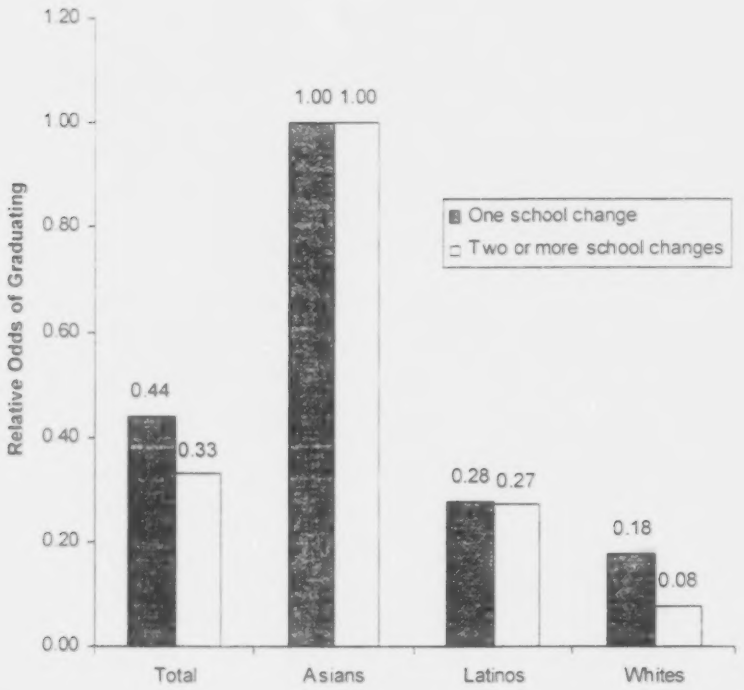
Although these data show that students who change schools are less likely to complete high school, they do not reveal whether school changes were the primary cause of not completing high school or whether other characteristics of students, such as poor school performance or misbehavior in earlier grades, contributed to both school changes and dropping out of high school. In order to better assess the impact of school changes on high school completion, we performed a multivariate statistical analysis of the NELS data. By examining the simultaneous effects of a host of factors, it is possible to determine the unique or independent impact of changing schools on the likelihood of high school graduation after controlling for the effects of other factors that may also influence the likelihood of both changing schools and finishing high school. For example, if both school mobility and high school completion were related to family socioeconomic status (SES), then such an analysis might reveal that school changes may have little direct impact on high school completion after controlling for the effects of family SES on high school completion. To investigate this issue, we examined the impact of school changes on the likelihood of graduating from high school controlling for the effects of family background factors and a number of grade 8 school factors, such as academic achievement. We conducted the analysis first on the entire sample of California students and then

separately on samples of Asian, Latino, and non-Latino white students. The complete results of the analysis are shown in Appendix Table A.4.[14] Here we focus on the impact of changing schools.

Figure 3.1 shows the relative odds or change in the likelihood of graduating from high school due to changing schools. Relative odds is expressed as a ratio that can vary from less than one to greater than one. A value of one signifies no significant change in the odds or likelihood of graduating from high school due to changing schools, while a value greater than one would indicate that the likelihood of graduating increased due to changing schools. In this case, most values were less than one, indicating that students who changed schools were less likely to graduate. For example, students who changed high schools once between grades 8 and 12 were less than half (.44) as likely to graduate from high school compared to students who did not change high schools. Students who changed high school two or more times were two-thirds less likely to graduate.

But the impact of student mobility was not uniform across ethnic groups. While student mobility decreased the likelihood that Latinos and non-Latino whites would finish high school, it apparently did not affect the prospects of high school completion for Asian students. These results suggest that although student mobility rates among Asians are similar to the rates among Latinos and non-Latino whites, Asians do not suffer academically from mobility, at least in terms of high school completion. Also, we noted that Asian students were much less likely than Latinos or non-Latino whites to make two or more school changes during high school. These two findings suggest that Asians are more strategic in their mobility and, apparently, are able to benefit or at least not suffer because of it.

[14] This analysis examined the impact of these factors on the likelihood of completing a high school diploma relative to the likelihood of receiving a GED or not finishing high school. In another study (Rumberger & Larson, 1998a) we found that mobility adversely affects the likelihood of getting a GED as well as getting a high school diploma.



NOTE: Relative odds represent the ratio of the predicted odds of changing schools (other than those due to promotion from one type of school to another) associated with a one-unit increase in each factor to the predicted odds of changing schools without the one-unit increase, controlling for other factors. Predicted odds ratios of one represent estimates that were not statistically significant at the .05 level.
SOURCE: Appendix Tables A.4.

Figure 3.1
Relative Odds of Graduating from High School Due to School Changes

Results from the Student and Parent Interviews

In our interviews, students and parents were asked a number of questions about the educational consequences of mobility. The matrix display (Miles & Huberman, 1984) in Table 3.2 provides a visual representation of the consequences of student mobility reported by the students, parents and guardians we interviewed. Designed to be descriptive, not explanatory, each cell entry (depicted as an asterisk) in the matrix display represents a parent's or child's statement or direct quote. The columns in Table 3.2 represent conceptual categories through which we analyzed the consequences of student mobility. Overall, students and parents reported that mobility impacted their schooling in similar areas but not necessarily similar ways to those reported by students in the NELS surveys: that

is, mobility impacted (a) their psychological well being, (b) the degree to which they socially engaged in school and after-school activities, (c) their academic engagement in learning, (d) the accumulation of academic credit leading to school completion, and (e) academic achievement as represented by school grades.

Table 3.2
The Consequences of Student Mobility from the Student and Parent Interviews

Ethnic Group	Psychological Well Being		Social Engagement		Academic Engagement		School Completion		Academic Achievement		
	positive	negative	positive	negative	positive	negative	positive	negative	positive	neutral	negative
African-American		*		**				**	**	**	****
Latino	*	***				******* ***		*******	****		******* ***
Non-Latino White	**	*******	***	******* *******	*	***		*	******	*****	****
Vietnamese-American	*	*******	**	******* **		****		***	****	*	***
Korean-American	*	*****		*****	*	***		******	*****	*	******* **

Note: Each cell entry (depicted as an asterisk) in the Table 1 represents a parent's or child's statement or direct quote

Psychological Consequences. Numerous studies address the negative psychological and social impacts of both residential mobility and changing schools (Jason et al., 1992). Consistent with this literature, our interviewees seemed particularly intent on reporting both social and psychological difficulties encountered as a result of changing residences and schools. In a statement represented by a single asterisk in the column labeled "Psychological Well Being—negative", Jim, who changed schools twice during high school and also changed schools two times during middle school, made the comment:

> *Moving and changing schools really shattered my personality. I feel like there's all these little things I picked up from all of the different schools and I feel all disoriented all the time. There's no grounding. I always just feel like I'm floating. It's*

> *psychological damage, really...because you never feel like a complete person. That's how I feel—I feel fragmented. Every time I moved I felt less and less important.*

His mother was understandably concerned about Jim's well being after he changed high schools. After leaving his first high school, Glenwood High, she took important steps to address that concern:

> *We had him see psychiatrists, psychologists, and everything during that school move because at one point he put his fist through a shower door. He was really upset. So I told him, "OK, we'll go back to Glenwood High."*

Bobby, who attended three high schools and two middle schools, also found changing schools to be emotionally difficult:

> *It was a little depressing and uncomfortable. I'd get depressed from time to time. I'd feel alone 'cause I'd have no friends to start out with... I minded [changing schools] because I started having good friends and it was hard losing them.*

Social Engagement. Students also reported a number of social impacts from changing schools. Alejandra, who eventually dropped out of school after making numerous high school changes, expressed her frustrations trying to make new friends in the midst of her nomadic experience as a student:

> *It's hard to change schools 'cause, well, I don't know about other people, but to me it's hard because I'm not the type of person to make friends real quick.*

Indeed, many interviewees talked about their difficulty in trying to maintain important friendships in spite of changing schools, and in trying to make new friends along the way. According to Luy:

> *When I first moved here, I did not know anybody. I was very lonely. Nobody really helped me at school when I first came. Most of my friends are still back at the old high school. I do not have good friends to support me here like back at the old high school... I just want to get out of here as quickly as possible and go on to something else.*

Social support, including a sense of acceptance and being a part of a network, has been identified as a particularly important resource for families and children (McCubbin et al., 1980). Michelle's mother, a former schoolteacher in Korea, intuitively identified the value of social support and its particular importance among adolescents:

> *In high school friends are very close. So changing school, in my opinion, is not a problem related to school, but rather to personal matters.*

Jose's mother also expressed concern for her son in terms of his social adjustment after changing schools:

> *In the beginning, he could not find himself or fit in. In reality, he was not comfortable.*

Academic Engagement. Along with the negative psychological and social consequences of student mobility, our interviewees also consistently report changing schools and residences negatively impacted student engagement in school and school-sponsored activities. According to Laura:

> *When I switched schools I did absolutely nothing. I just wanted to get in, get home, and that was it. I wanted to get out as quick as I could and I didn't want to stay any later than I had to.*

When Luy changed high schools, she too began to disengage from school activities. *"At the new school, I did not want to do my schoolwork or anything. In fact, I didn't even want to go to school,"* she said. Luy's mother also noted the negative impact of mobility on students' involvement in school:

> *If they change to a new school they feel very lonely and don't feel like going to school. They will start cutting classes...*

Not unlike Luy, Wendy began to disengage from school in the aftermath of a school change. *"All the teachers were new and I did not dare ask them any questions,"* Wendy said. *"I just went to school and came home by myself."* Alejandra's mother also noted the negative impact of student mobility on children's desire to get involved in school:

> *If there is no reason to move a student, don't do it. Because those changes can bring problems and their [students'] desire to be in school is gone.*

Khai's father, while articulating concern regarding his son's school performance after changing schools, illustrates the inter-relatedness of school engagement, or lack thereof, and the social and academic dimensions of schooling:

> *The more Khai changed schools the more he felt bored because eventually he lost all of his friends. So he isolated himself in the new school... You may do worse when you move to a new school because you leave all of your friends and teachers and you are unable to make new friends at the new school.*

High School Completion. In light of the negative impact of mobility on school engagement noted above, it was not surprising that our interviewees also reported mobility inhibited school

completion. Some interviewees even stated that dropping out of school was directly related to school mobility. According to Alejandra's mother, "*As a result of moving so much, Alejandra didn't want to go to any school.*" Alejandra confirmed her mother's observation, stating:

> *During one of the breaks in schooling, I didn't go back to school for about a month-and-a-half... I never got to the 12th grade -- that was one consequence of mobility. I didn't finish. It's just the lack of me wanting to go back to school.*

Others reported spending large chunks of time out of school, or "stopping out," due to their transition from one school to the next. Michelle told us about the loss of valuable school time (and presumably credits toward graduation) associated with her mid-year school change:

> *Changing schools is harder than what people think...because it takes a lot of time. When I checked out and then looked around for a school, I would lose a lot of time because you have to go to the [prospective] schools...you're like, kinda falling back.*

Laura's mom also noted the loss of valuable school time when her daughter changed schools, stating, "*Laura technically dropped out for about a semester.*"

Academic Achievement. The data matrix depicted in Table 3.2 and the preceding analysis revealed the mostly negative impact of mobility on the psychological and social well being of students as reported by our interviewees. It is also clear from the column labeled "School Completion" that, on the whole, student mobility has a negative impact on high school graduation among interview participants. In light of these findings it is somewhat surprising that a similar pattern was not found regarding academic achievement. Instead, some interviewees said that mobility improved their grades, while others reported its negative effect. Still others expressed ambivalence, citing both positive and negative effects related to changing schools. Jim, for example, stated, "*...Then I moved to a different school and one grade went down and one grade went up.*" Nate, who changed schools frequently both in middle school and during his first two years of high school, also expressed ambivalence about the impact of changing schools on his grades:

> *As far as grades go, it depends on the person. It's weird... In middle school they'd be better when I just started out [at a new school] and then they would get worse. And then in high school my grades they just haven't changed -- they've always been mediocre.*

And while Michelle reported a drop in grades as a result of her transfer to a magnet school, she believes the move was actually beneficial to her:

> *It kinda dropped my grades a little. Like I totally dropped down one grade each. I didn't want to go but academic-wise, it was probably better. It was more of a challenge you know. It pushed me more.*

Many interviewees were not at all ambivalent about the impact of student mobility on school achievement and grades. While some reported negative impacts, others reported that student mobility boosted their school grades. Erin was among the students for whom moving proved academically beneficial. "*My grades went up when I transferred to Tadfield*," she said. Between her sophomore and junior year in high school, Laura moved all the way across the country, from Maryland to California. She also reports improved grades due to her move to a new school setting:

> *Moving out here has been... I love it out here and I love my new school and I get straight A's now, and at my old school I was failing all of my classes.*

Ebony also reported improvement in her grades when she transferred high schools, stating, "*Well, my grades were much higher when I changed schools. At Pritchard it was B's and at Burheim it was A's.*" Kythra shared a similar experience –"*My GPA went up [when I changed schools]. It was a better environment so I could do the work.*"

While some interviewees are ambivalent about the impact of mobility on their grades and others report its positive impact, still others believe that changing schools actually hurt their academic achievement. "*Michelle's school performance decreased when she changed schools*," her mother said.

What explains the inconsistent findings regarding the impact of student mobility on school grades? Interview data indicate the logical association between cause and consequence as an explanatory factor. As we report in the next chapter, students change schools for both strategic and reactive reasons. And we found that students who changed schools strategically generally reported improved grades at the new school site, while students who changed schools reactively, sustained losses in academic performance represented by grades. For example, when Ho Huey's mother initiated a move so that her family could live among ethnic peers in a supportive community

environment (a strategic family-initiated school change), Ho Huey's grades improved: "*Ever since I transferred to San Rafael High School, my grades went up.*" In contrast when school personnel transferred Susan to another school—"*I got OT'd*"—her grades dropped. According to Susan's mother:

> *Only one time when I particularly felt something was when Susan changed from Gardenside to Truman in 11th grade. At Truman, her grades came out very poor. The counselor said it was because she came in the middle of the semester.*

In summary, across all five ethnic groups in our study, student and parent interview data (Table 3.2) show the largely negative consequences of student mobility on the psychological well being of mobile students. Student mobility was also reported by our interview participants to be detrimental to school engagement as well as school completion. Lastly, and perhaps surprisingly, according to students and parents, mobility may or may not have a negative impact on students' academic achievement in terms of school grades, depending on various factors such as whether or not students change schools in the middle of the school year, and the particular kind of school (e.g., magnet school) to which students transfer. These factors appear to be directly related to the reasons that students change schools, which we discuss in the next chapter. Our interview data suggest that students' grades generally go up when they change schools for strategic reasons—including, for example, moving to a magnet school—but generally go down when students change schools reactively, in response to immediate or unforeseen events.

Results from the School Interviews

Educators today face concerns related to challenging issues such as school violence, limited resources and teaching materials, insufficient parent involvement, and overcrowded schools. Despite these concerns and pressures, the educators we interviewed identified mobility as one of the most troublesome factors affecting learning and achievement in their schools. Only two educators mentioned any positive effects of unscheduled school change on students. Educators were motivated to express their thoughts on school mobility and appeared to have thought about the issue before we

met them for interviews. Our interviewees also believed that their colleagues agreed about the negative effects of mobility

Like students and parents, most educators interviewed felt that unscheduled school mobility often harmed students in three areas—psychologically, socially and academically—which helps explain the association between school mobility and school dropout. That is, according to the model offered in Chapter One, student persistence requires that the student be engaged in school socially or academically. According to educators, unscheduled school changes reduce opportunity for the student to be engaged emotionally, socially and academically, thus increasing risk for school dropout.

Psychological Consequences. Universally, educators felt that an adolescent's psychosocial well-being is harmed by mobility, especially if the student is a frequent mover. As Mr. Smith, a teacher at Mount Hollyfield High School teacher, put it:

> *... if you stay in one place you develop roots. And if you have those roots, you have a sense of belonging and then you may do better because you belong to that place.*

Ms. Thomas, a teacher at Los Carneros High school, made a similar comment: *"I think it's not good for the student's self-concept and the feeling [of being] in a comfort zone."*

Educators voiced the opinion that adolescence is a time of stress and mobility just increases that stress. Many educators explained that when mobile adolescents enroll in a new school they are faced with the challenge of finding, from a myriad of choices, which "type" of peer group they want to associate with and then finding ways to meet and make friends with the type of students they identified. Some educators voiced concern that new students had to be aware of gang affiliations in order to protect themselves in the new school context. Others felt that transfer students were more vulnerable to fall in with "bad" peers and have their behavior deteriorate as a result. On the whole, educators felt that fitting in to a new environment was a very stressful situation for adolescents, particularly because of the importance of the peer group. As Mr. Smith put it:

> *If they don't know that they'll be moving and it comes up suddenly, then that's stressful for adolescents that are already coping with so many changes in their lives. And some of these kids don't have good coping skills and that manifests emotionally*

> *and in illness. It's hard for kids to move from place-to-place, especially if they are coming from different cultures and adjusting to this one.*

Mr. Veracruz, a counselor at Caroledale High School, made a similar observation:

> *Anxiety at the high school level comes from how they are going to fit into a safety dynamic—kinda scoping out what the threats are. But in the junior high I sense there was some of that but at that age they want to be accepted socially—they are very much concerned with appearance.*

Social Engagement. Educators felt that mobility causes students to lose a sense of interdependence with peers and adults. One counselor pointed out that the necessary connection between student-school-family-community is broken when a student is not in a school long enough for adults in these various contexts to form relationships. Alienation and withdrawal were common descriptors of the consequences of mobility. Mr. Sanchez, a counselor at La Patera High School, commented, "*When you get kids who move in and out, they don't have allegiance to a community.*" Mrs. Damion, a counselor at Windsor high school agreed:

> *They feel lonely and they feel bad. If they don't have at least one person to bond with, a lot of them don't want to come to school.*

Educators pointed out that because mobile students are with teachers for shorter periods of time, they are less able to make personal attachments with their teachers. Mrs. Dumois, the principal at Covington Middle School, talked about the loss students' experience when they are not connected to their teachers.

> *The connection to success is the connection the children feel to the teacher- it takes a while to develop, it takes a while to feel comfortable- to take risks and all those wonderful mysterious factors of learning and you keep interrupting that ...*

As mobility increases alienation and stress, and reduces ability to make connections with peers and teachers, educators felt that transient youth are more at risk for expressing their frustrations through misbehavior. This misbehavior, in turn, increased the student's risk of being administratively transferred to another school, thereby inducing another unscheduled school change. Ms. Alverez, a teacher at Smithfield high school, pointed out:

> *I think mobility is a terrible thing because they do not adjust to the rhythm of the school and they already expect that they'll be moved out again. They have major problems with constant disruptive behavior and constant problematic situations.*

Mrs. Sukare, a teacher at La Patera High school, observed similar impacts: *"Patterns that I have experienced with transient kids include -- you can tell by their behavior in class - restlessness, constantly talking, getting up constantly..."* Mrs. Dickens, a teacher at Caroledale High School, also pointed out behavior problems from mobile students:

> *It's demoralizing for the students to be in a class that they don't think they're going to pass. They don't want to come. Where they act out. Who blames them?*

Academic Engagement. Educators felt that mobility not only reduced students' social engagement, but also their academic engagement. They noted two impacts on academic engagement: motivation and work habits.

(1) Motivation. To persist in secondary school, research and theory suggest that school engagement requires that the student be connected either socially or academically. Educators felt that it is more difficult for mobile students to maintain engagement in school. In turn, lack of engagement is manifested in reduced motivation for mobile students to produce required schoolwork. Mr. Martinez, an assistant principal at Los Carneros High School, high school pointed out, *"[Mobile] students aren't real motivated because they know they're probably not gonna pass."* Mrs. Daniels, a school restructuring coordinator at La Patera High School, made a similar observation:

> *If kids know that their family is thinking of moving, then my experience in the classroom is that they are sort-of only half there with you because they don't think they'll be staying.*

(2) Work habits. As we note below, mobile students often lose credits because they do not immediately "get with it" and begin to produce work and pass tests, or they do not make up necessary work to pass the class. All teachers felt that students entering after a class has already begun need to have high motivation and excellent work habits to catch up and achieve. Educators identified resilience, flexibility, sociability, adaptability, ability to seek support, motivation and hard work as the qualities that mobile students need to successfully achieve in the new environment. According to educators, many students do not possess these qualities. Mr. Jackson, a teacher at

Covington Middle School, described the challenge for mobile students enrolling late to a new classroom.

> *They need to quickly take on the pace of my classroom. They need to learn the rules really quickly. They need to know that I expect certain things, and there's no ifs, ands, or buts. They need to bring certain materials, I need a child who is willing to adapt as quickly as possible.*

Academic Achievement. Of all the psychological and social impacts of mobility, educators strongly felt that a negative impact on academic achievement was the most detrimental. Unscheduled school changes in the middle of a school year were identified as particularly harmful to achievement.

To educators, the aspect of student achievement most impacted by mobility was the earning of high school credits which directly affects the prospects for high school completion. In the urban district, both teachers and counselors pointed out that many students lost credits because they did not bring "transfer grades" from their previous school. Because record transfer was so slow, obtaining transfer grades before the end of the semester when grades were due was often difficult—this was also true for students in the suburbs who changed schools as well as for out-of-state or out-of-country students. As Mr. Sanchez, a counselor at La Patera High School put it, *"Nine times out of ten, the students check in without grades."* As Ms. Swartz, a teacher at Los Carneros High School, pointed out, students who arrive in class without grades are immediately at risk of failure: *"They have an F when they enter if they don't bring transfer grades."*

Students in the smaller suburban district were able to obtain grades more quickly on intra-district transfers but not if the student came from out-of-district. Counselors reported that students in the migrant worker program had formal and satisfactory transfer of records.

Teachers universally felt that transferring into a class past the half way mark predicted failing the class. In fact, one school actually had a policy that if the student transferred in more than 15 days after the start of the class, then the student would receive an automatic fail in the class. Most educators felt that many transfer students themselves did not think they were going to pass the class and this reduced their willingness to complete assignments.

Additionally, counselors reported that due to nonaligned curriculum between schools and overcrowding, many transfer students cannot be assigned classes that they had in the previous school or that they need for graduation. Counselors in both the urban and suburban schools reported that students enrolling after the beginning of the school year or, in some cases, after the semester had started were often not assigned to the classes they needed because classes were full. Mr. Bodifer, a counselor at Caroledale High School, stated that due to overcrowding students are even assigned to the wrong grade level class where they might not earn credits:

> *...we try to do what's necessary to get them into the right classes. But the core subjects area classes are often full so the transfer student may be in one required class and five electives.*

Ms. Langston, a teacher at El Puente High School, observed the same problem at her school, "*[They] just have to be put in some class with an open space.*" Mr. Martinez, an assistant principal at Los Carneros High School, suggested that the lack of appropriate placement was due, in part, to the time required to process mobile students:

> *Generally the choices get limited for [mobile] students. Unfortunately, and this is just a resource issue, [counselors] don't have the time to make a real quality placement. We don't have enough classes to put the kids in ... we're just trying to get them through the system.*

Even when it is possible to enroll a transfer student in an academic class "identical" to the one they had in their previous school, many teachers reported that "because everyone teaches differently" the class work does not match between the two settings. Educators reported that it is impossible for students to make a "seamless" transfer to the new classroom because classes differ not only in how a teacher organizes the students, presents material and evaluates work but also often in core vocabulary and content. For example, biology and math—two subjects with seemingly specific vocabulary—were identified as classes where some important definitions and vocabulary vary from classroom to classroom, thus making it hard for new students to understand something they have actually learned in a prior setting. Ms. Langston, a teacher at El Puente High School, observed:

> *A lot of times I get kids who haven't covered the same material that my students have, so they're kinda lost. ... sometimes they just don't have the foundation they need.*

Mr. Pazer, an administrator at Covington Middle School, concurred:

> *They don't match the classes between schools. You have to reinvent the wheel ... It really hurts.*

In summary, educators identified the same consequences from mobility as students and parents: mobility impacts the psychological well-being of students; it hurts their social and academic engagement in school; and it damages their academic achievement, primarily by impairing students' ability to earn credits needed to graduate from high school. Educators also pointed out several reasons why the loss of credits occurs. First, mobile students often are unable to be placed in the classes that they need, either because those classes are full or because of poor counseling. Second, even if mobile students are placed in the "right" class, the curriculum sometimes differs from that of their previous school, which puts them behind their classmates. Third, even if the new class matches the old, many students often arrive in their new school without "transfer grades" with them, which immediately puts them behind their classmates.

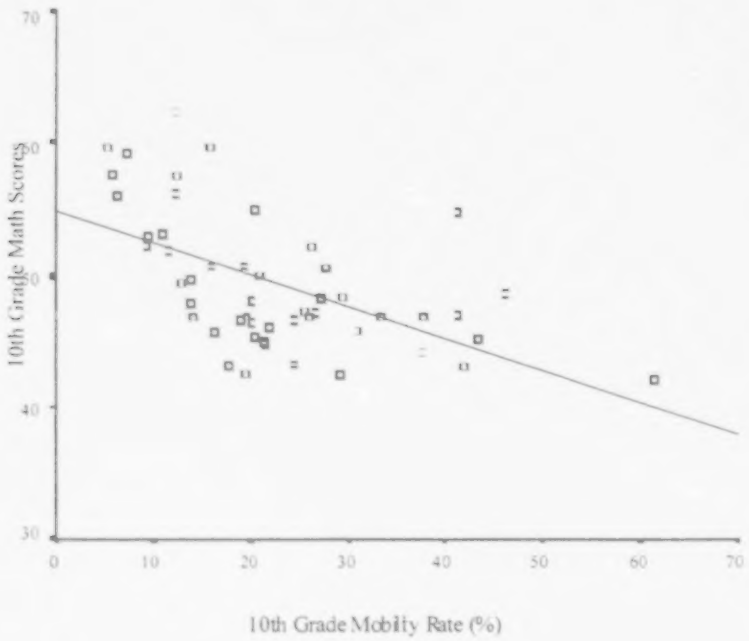
THE EDUCATIONAL CONSEQUENCES OF MOBILITY FOR SCHOOLS

Mobility not only impacts students, it impacts schools. In fact, the reason that mobility has negative consequences on students is, in part, because it has negative consequences for schools. This is especially the case in schools with high rates of student mobility. We arrived at these conclusions by analyzing two sources of data— school survey data and interviews with school personnel. Both sources of data demonstrated the devastating impact of student mobility on schools, classrooms, and students.

Results from the HSES

The school surveys provided information on 51 California high schools and a sample of 1600 students attending those schools as 10th graders in 1990 (see Chapter 1). Because the majority of students were given standardized tests, we used these test scores to examine the relationship between a school's mobility rate (the percentage of 10th graders who left school by 12th grade) and a school's

average test scores in mathematics.[15] The results are shown in Figure 3.2. The general relationship between test scores and mobility is represented by a regression line that best "fits" the data. The negative slope of this line shows that, in general, as mobility rates of high schools increase, average test scores decrease. Of course, this does not mean that all schools with high mobility rates have low test scores or that all schools with low mobility rates have high test scores. But, in general, schools with high mobility rates had low test scores.



NOTE: Student mobility rate equals the estimated percentage of 10th grade students who left school after two years. Test scores are the average 10th grade test scores in mathematics for sample students.
SOURCE: Residuals from a null HLM models from Appendix Tables A.7 and A.8.

Figure 3.2
Relationship between 10th Grade Test Scores and Mobility Rates for California High Schools

[15] We used math scores because they are generally considered a better measure of a school's effectiveness than reading, which can be more influenced by home environment.

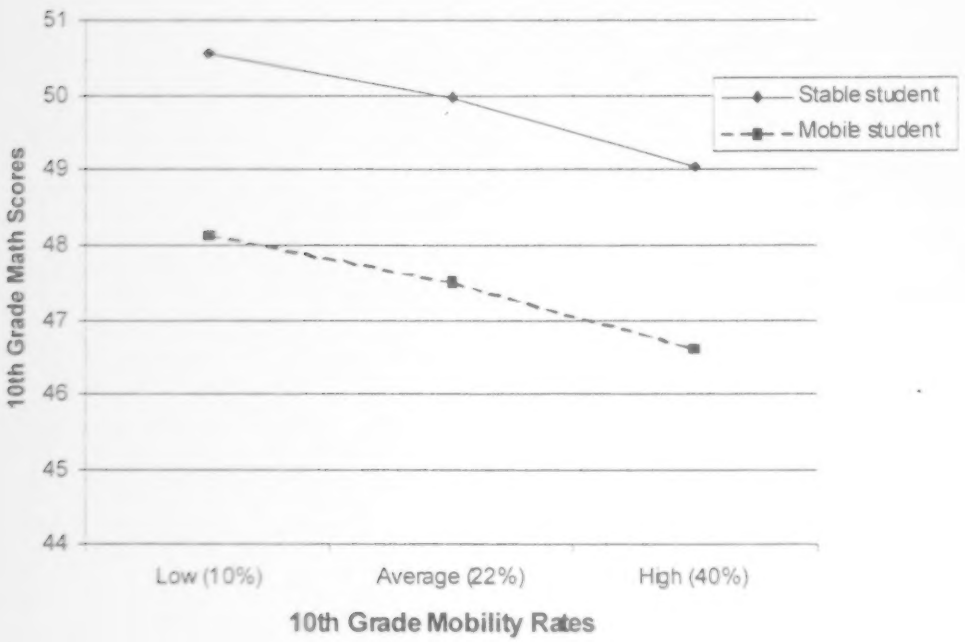
As is the case with students, the relationship between mobility and educational outcomes at the school level could be due to other factors that are related to both phenomena. For example, earlier we observed that students from low income and low SES families had higher mobility rates (Table 2.2). Since prior research has demonstrated repeatedly that students from low income or low SES families have lower test scores (Bridge et al., 1979; Willms, 1992), then the observed relationship between school mobility rates and average school test scores could be due to the socioeconomic background of students and not mobility itself. Yet other research has found that the social composition of students in a school can have powerful impacts on school performance above and beyond the individual effects of student background characteristics (Gamoran, 1992; Raudenbush and Willms, 1995). These effects are known as compositional or contextual effects because they are due to the aggregated effects of student background characteristics that operate at the school rather than the individual student level. These effects could be due to such factors as the teacher expectations, teacher quality, or policies and procedures that operate in schools with particular types of students. For example, teachers in schools that enroll high numbers of poorly prepared students may lower their teaching standards for all students in the school, which would tend to lower student achievement even more than would be expected from the individual effects of students' academic background on achievement. Alternatively, schools with high numbers of poorly prepared or "difficult" students could have trouble attracting good teachers, which would again tend to lower student achievement for all students above and beyond the individual effects of students' academic background.

To investigate this issue, we used an advanced form of statistical modeling that allowed us to estimate both the individual effects of student mobility on test scores and the school or compositional effects of student mobility on test scores. After controlling for the effects of student socioeconomic status, we still found that student mobility affects student achievement at both the

individual and school levels (Figure 3.3).[16] As the figure shows, mobile students (those who left their high school between the 10th and 12th grades) had lower test scores than stable students (those who remained in their high school between the 10th and 12th grades) no matter what kind of school they attended. This represents the individual effect of student mobility because it only affects those individuals who were mobile. But, stable students who attended high schools with mobility rates of 40 percent scored one and a half points lower (15 percent of a standard deviation) on a standardized mathematics test in 10th grade than students who attended high schools with mobility rates of 10 percent. These results were statistically significant. In other words, student mobility not only has negative impacts on mobile students, but also on stable students if they attend high schools with high mobility rates. This is referred to as the school effects of student mobility because it affects all the students in the school whether they were mobile or not.[17]

[16] Earlier (Table 3.1) we noted that mobile students had lower test scores than stable students in all subject areas, although only differences in mathematics and social studies were statistically significant.

[17] We also examined whether student mobility only had a statistically significant impact at the school level when it reached a particular threshold level. Such a threshold or "tipping" effect has been observed in neighborhoods such that once a threshold level of neighborhood deterioration occurs, the neighborhood exhibits extremely high levels of neighborhood decay and poor living conditions (Massey & Denton, 1993). For the California sample of schools, we did not detect a threshold level, but we did detect a lower threshold of 10 percent and an upper threshold of 40 percent for the entire U.S. sample of schools.



NOTE: Mobility rates represent the estimated percentage of 10th grade students who left school after two years. Estimates control for the effects of socioeconomic status.
SOURCE: Appendix Tables A.7

Figure 3.3
Estimated Effects of Student Mobility on Test Scores

Results from the School Interviews

Not surprisingly, educators appeared most able to discuss the consequences of school mobility when it affected themselves and school practices directly. Interviewees identified two levels of school consequences— classroom consequences affecting instruction and school wide consequences affecting climate and logistics.

Classroom Consequences. According to the educators interviewed, the impacts of student mobility on teaching are profoundly negative. Consequences at the classroom level affect teacher morale, lesson presentation, and learning activities.

(1) Impacts on teacher morale. In schools with high rates of student mobility (30% or more per year), educators we interviewed said that student mobility, more than any other factor, made them come close to giving up. Mr. Rodriguez, an assistant principal at Patterson High school, reported:

> *[Mobility] chips away at your morale, but you've got to deal with it. The average teacher just deals with what they've got in front of them and they don't see any way around it other than, you know, 'Fix my problem'.*

Mrs. Dumois, the principal of Covington Middle School, made a similar observation:

> *No matter how fine a teacher you are, you start out with 30 kids and you know at the end of the year, 10 or 15 won't be here. How can you measure Maria's success? If you can't see that happening then you pull back a little. It's a fact of life that we don't like but have to deal with it.*

Mr. Andrews, a teacher at La Patera High School, concurred: *"Teachers put effort into teaching and the kids leave and the teachers don't have that sense of continuity and accomplishment with the students... and that affects morale."*

(2) Impacts on lesson presentation. New students arrive at classrooms unannounced and sometimes when class is in session. Obviously, teachers have no choice but to stop their lesson and enroll the new student. At minimum this entails finding a seat for the student, entering the student in the roll book, issuing book cards and texts and signing the enrollment card. More often, our interviewees reported, it also means talking to the new student privately for a few minutes to determine vital information, deciding which group the new student should be assigned to, setting the student up with a "buddy" to help ease the transition into the class, pulling together an informal assessment package or some "catch up" lessons and perhaps making an appointment to see the student after school or at lunch. Clearly mobility completely disrupts a teacher's lesson and impedes class momentum. It's understandable that teachers, after planning and preparing a lesson, and motivating and engaging the class, felt extremely discouraged by mobility-related interruptions to their classroom. Mr. Jones, the principal of Caroledale High School, put it this way:

> *Nine times out of ten -- If I have a choice and I can take a class the first day and have 45 students in class [15 more than required], knowing that my class will get closed, I will take that class any day over the class where I've got ten students the first*

> *day and they're gonna trickle in throughout the semester -- I'll take the class of 45 any day of the week.*

Ms. Kune, a teacher at Caroledale High School, characterized the impact of mobility this way:

> *...Kids are left on my doorstep 'in a little basket, with a note.' You come, and knock on my door with a piece of paper. I sign it, they take it back to the counselor and the student comes back, and we start from there.*

Mr. King, a teacher at Patterson High School, simply stated: *"You know, there are constant interruptions with students checking in and checking out."*

Teachers also pointed out that mobility impacts lesson presentation because students transferring from different schools, and at times even from within the same school, don't have the same conceptual background or vocabulary that the teacher uses to build learning. When the teacher presents a lesson new students are often lost and require extra explanation and review to understand. Thus, if the new student is to be brought along the teacher is forced to alter the lesson presentation or slow the pace of the lesson when in fact the rest of the students do not need such remediation. Ms. Green, a teacher at Covington Middle School, identified this problem during her interview:

> *If you're teaching thematically, or going from one unit to the next, that's completely gone, because they don't have what is behind it. If you've built a base, that base is gone. Essentially you're kind of starting over, but you can't because you have the rest of the kids in the class. So, it's very difficult on the kids as well as us. You get a flow with your class and that also gets disrupted because we have to go back and show them your system.*

(3) Impact on learning activities. Teachers said that mobility disintegrates group and project work because these types of activities require students to learn to work together and divide up the work - of course such activity implies a consistency of membership over time. That mobility negatively impacts group work is particularly frustrating because other research specifically encourages teachers, especially teachers of minority students, to structure students into cooperative groups and team projects. Mr. Smith, a teacher at Mount Hollyfield High School, characterized the problem this way:

> *We start on a project, and prepare for the project by putting them in the appropriate groups. When a kid leaves in the middle, we have to adjust the whole group again. It is very tiring, time consuming. Often times you lose momentum in what you are*

> *doing. It takes a lot of time to readjust and refocus and figure out how you're going to do it.*

Several other teachers identified the same problem. Mr. Trujillo, a teacher at Marymount High School said:

> *It's frustrating to teach mobile kids -- especially for history class. I run lots of projects in my classes. When I have kids come in who have missed the first three steps - it's frustrating ...I rely on other students to tell [new] students what to do which is frustrating because those [new] students don't get my instructions from day one.*

Mr. King, a teacher at Covington High School, mentioned:

> *'There is not consistency. And it's so challenging trying to teach on a day to day basis when only half the students check in or 2/3 of the students show up."*

Finally, Mr. Jones, the principal at Caroledale High School, put it this way:

> *"Any big American company that has a high transience rate would work to stop it because they know they can't lose their workforce. Inconsistencies develop. Can you imagine a system of 40 guys making cars and every week 5-6 check out and take their tools with them -- would a company tolerate that? They wouldn't tolerate it!"*

Another impact on learning activities was simply using up teaching time to handle classroom mobility. Almost every teacher interviewed bemoaned the precious classroom time taken to check students in and out of the class. All teachers felt this was a wasteful use of time and some felt this was unfair to the other students.

(4) Impact on other students' learning. Some educators expressed the belief that transience hurt non-mobile students' learning because it interrupted and upset lessons when the student arrived in class, took extra teacher time to check-in the student and distribute books and work, and disrupted projects or group work that needed consistent membership. Mr. Martinez, an assistant principal at Los Carneros High School, stated:

> *Those [transfer students] are the kids you've got to boost up, but it takes a lot of toll on your class... it takes time away from students that have been there the whole time.*

Mr. Andrews, a teacher at Patterson High School, stated: *"Student transience is frustrating to teachers... and the instructional program is impacted by the transience factor."* Mr. Duncan, an administrator at La Patera High School, also mentioned the consequences for non-mobile students:

> *... we're draining our teachers and we're draining our resources that could go to those students who aren't causing problems ... for two-thirds of the kids who are here throughout the year.*

School-wide Consequences. In addition to its educational consequences in the classroom, the educators we interviewed reported that student mobility has several school-wide consequences that impacts all students in the school. According to these educators, mobility affects the school resources, school climate, logistics and the academic program.

(1) Impact on resources. Administrators were particularly frustrated by the extra time spent dealing with mobility at the school level. Not only was it disruptive to staff who had other responsibilities as their prime role, but it required a great deal of staff time. In most schools students were required to sign in and out with 8 to 10 (in one school 11) adults in various offices or classrooms around campus (e.g., health, textbook, counselor, teachers, attendance, special program offices, etc.). Educators reported that this process expended a great amount of limited personnel time that could be allocated to other issues. Mr. Martinez, of Los Carneros High School, described the situation this way:

> *It can take all day to check in a new student. If you saw our enrollment form ... They've got to see the nurse, bilingual counselor, Title I coordinator... My second week I got here I had 50 parents waiting outside my office to enroll their kids.*

Mr. Duncan, an administrator at Turnpike High School, also noted the resource impacts of processing mobile students: *"I have two full time clerical staff whose primary duty is to register students which takes a lot of time and check students out. We've got to process all those forms."*

The other area of resources affected by mobility is the textbook budget. Every administrator we talked with mentioned that transience made it nearly impossible to recover textbooks — administrators felt that the cost of these losses was astronomical. It was pointed out (and subsequently verified) that public schools cannot "hold up" transcripts in order to collect textbook charges, so schools have no leverage to recoup losses. Mrs.

Dumois, the principal of Covington Middle School, was one of the interviewees who identified this problem:

> *Mobility tremendously impacts our textbook budget. Kids come in and you issue them a book and then two weeks later they are gone to Arizona, to Texas. Kids will take the book. We lose a tremendous amount of textbooks. It becomes an economic factor for the school. Because of the transience and loss of textbook revenue there is an inclination not to issue the books. We give older textbooks. It becomes a pressure to the teacher (to not lose the textbooks) and so she doesn't give them out.*

Mr. Rodriguez, the assistant principal at Patterson High School, also mentioned the problem with lost textbooks, when he said, *"Loss of books—kids checking out, we don't get the book back, we lose books, students don't have enough textbooks to take home and their academics suffer."* And Mr. Jones, the principal of Caroledale High School, made a similar observation:

> *"One thing that comes to mind is that of funds for textbooks. It is difficult to retrieve textbooks with kids checking out..."*

(2) Impact on social climate. Educators felt that the social life of a school campus was negatively affected by student mobility. According to educators, a sense of cohesiveness and participation in extracurricular activities were two areas in particular that were adversely impacted by student mobility. Mr. Jackson, a mentor teacher at Covington Middle School, mentioned this impact: *"A lot of areas are affected by transience rates and the sense of school spirit is affected."* Mr. Duncan, an administrator at Turnpike High School, also identified this impact:

We have many teachers here who are interested in having clubs and interest groups, and they try, ... the ones who constantly come and go never really get to be a part of that. So, I feel that school spirit is really weakened by transience.

(3) Impact on logistics. Administrators pointed out how student mobility affects the routine, order and logistics of running a large school. When a school has a high rate of transience then at any given time a significant proportion of the student body has missed Orientation Week at the beginning of the school year and are therefore unaware of rules and policies. Transient students must rely on student handbooks (which educators said most

students did not independently read) and the "grapevine" to learn the rules and policies. In addition, if a disciplinary or other problem issue is addressed by the school as a whole at some point, students who aren't attending at the time will have no knowledge of the issue, how it was solved or why—thus reducing cohesiveness of the student body and potentially resulting in a repeat of the problem. High rates of transience break down communication and mean that "everyone is not on the same playing field." Mr. Jones, the principal of Caroledale High School, was one of the interviewees who identified this problem:

> *If you do an orientation during the third week and then in the 12th or 14th week you have a large number of students who weren't here in the beginning , how do you get them to know what's going on in the school, so you have to try and duplicate everything. So it's an enormously taxing situation to try and keep up with the transience rate.*

Ms. Langston, a teacher at El Puente High School, said of her students, *"We never have the same student body two days in a row."* The constant movement of students lead one high school administrator, Mr. Duncan, to characterize his school this way:

> *You never have a sense of closure on anything. You're dealing with an issue one day with a student and the next day the student is gone, and checked out. You're dealing with masses most of the time. So we're dealing with masses of people, masses of young people.*

This environment impacts all the students in the school, as Mr. Rodriguez pointed out:

> *As an administrator, you have students who come into the school and they may or may not be familiar with the processes of the school -- the rules and regulations -- so you are constantly trying to make sure that everything falls into place, and this effects the entire school when you have students in and out.*

(4) Impact on school performance. Administrators were particularly concerned that their school's test scores did not reflect the accurate performance of the school because, in their opinion, many mobile students were not enrolled long enough to benefit from their school's teaching and programs. Mr. Martinez, identified this problem at Los Carneros High School:

> *As you know, we get tested at the end of the year and you know, it's assumed that the people we test at 9th grade are the ones we tested at 10th grade and if the scores go up or down, we're going to say it was related to instruction, but it may not have been. It may be an issue of how our mobility impacted us one way or another. We're not doing longitudinal studies with the same kids in a school. I mean, we've got 30-40*

percent of the kids who, in
hold schools accountable

SUMMARY

This chapter focused on the educational consequences of mobility for students and for schools. After analyzing the student surveys as well as the student, parent, and educator interviews we found that mobility has negative impacts on both students and schools. There was remarkable consistency among our data about the educational consequences of mobility. Several major conclusions can be drawn from this analysis.

First, students tend to suffer psychologically, socially, and academically from mobility. Many students experience difficulties adjusting to new school settings. Both students and educators reported transferring to a new school affected their personality or psychological well-being. And although the NELS student survey data did not show any significant differences in self-esteem and locus of control, the differences were in the expected directions, with mobile students reporting lower self-esteem and less self-directed control of their lives.

Second, mobile students often experience difficulty in making new friends and fitting in socially to a new school situation. Mobile students in the NELS surveys reported that they were less likely to be involved in extracurricular activities than stable students. Students and educators who were interviewed confirmed this lower level of involvement, with educators suggesting that this was due in part to poor attendance which reduced the possibility for after school activities. Possibly as a result, both teachers and students themselves report that mobile students are more likely than other students to act out or to get into trouble in school. Prior research has found that both misbehavior and lack of involvement in extracurricular activities increases the risk of dropping out (Rumberger, 1995; Rumberger & Larson, 1998a).

Third, mobility hurts students academically. There is overwhelming evidence that mobility during high school diminishes the prospects for graduation: students who changed high schools even once were less than half as likely as stable students to graduate from high school, even controlling for

other but to avoid dullness as both effects supplement. Our interviews with school personnel revealed some of the reasons why mobile students have trouble finishing—they sometimes get placed in classes that do not contribute to high school completion or they get placed in classes where the curriculum differs from their previous school—a condition referred to as "curricular incoherence" (Hirsch, 1996). There was less consistent evidence that mobility had a negative impact on grades and test scores. We had difficulty ascertaining the impacts with the NELS survey data because so many mobile students were missing test scores in 12th grade. In 10th grade, mobile students had lower test scores, but the differences were only statistically significant in two out of four academic subjects. Interviews with students revealed why the impacts of student mobility on academic achievement were hard to predict: students who made "strategic" school changes to seek a better educational placement, in general, reported positive academic impacts, while students who made "reactive" school changes due to intolerable social or academic situations were more likely to report negative academic impacts from changing schools.

All our findings on the student consequences of mobility are consistent with previous research studies and with our original conceptual framework presented in Chapter 1. Our results confirm what other studies have found—that many students suffer psychologically in trying to adjust to new school settings (Holland et al., 1974; Jason et al., 1992; Schaller, 1975). Our finding that mobility is detrimental to school engagement as well as school completion further confirms the theoretical underpinnings of this study relating student engagement to school completion (Finn, 1989; Newmann et al., 1992; Tinto, 1987) and the empirical research regarding the impact of student mobility on school completion and graduation (Haveman & Wolfe, 1994; Rumberger & Larson, 1998a).

Two additional findings concern the consequences for schools and the students they enroll. Fourth, mobility not only impacts students who change schools, it impacts classrooms and schools with mobile students. School personnel identified a number of ways that mobile students create chaos and burdens in the classroom as well as the school. Teachers were adamant about how disruptive and difficult it is to teach in classrooms with constant student turnover. And school administrators

reported how time-consuming it is simply process students when they enter and exit a school. Beyond the administrative costs, school personnel also identified other impacts, such as the fiscal impacts that result from mobile students failing to turn in textbooks, and impacts on school climate.

Fifth, mobility not only hurts mobile students, but also non-mobile students. Our statistical analysis of school test scores found that average student test scores for non-mobile students are significantly lower in high schools with high student mobility rates. Since one out of every five urban and suburban high schools in California has a mobility rate in excess of 30 percent, we conclude that a substantial number of students in California are impacted by student mobility. Educators were quick to point out how mobility could affect both mobile and non-mobile students in their schools. They characterized the overall affects of student mobility at the school level as a "chaos" factor that impacts classroom learning activities, teacher morale, and administrative burdens—all of which can impact the learning and achievement of all students in the school. This finding was also consistent with our conceptual framework that guided the study of mobility as a school phenomenon and supported previous studies that have documented the influence of student composition on school outcomes (Gamoran, 1992; Raudenbush & Willms, 1995).

Chapter 4

THE CAUSES OF STUDENT MOBILITY

In this chapter we investigate what causes mobility among students and among schools. Mobility among students arises for a number of reasons. In some cases, families move, requiring students to change schools. In other cases, students and their families may be unsatisfied with the education they are receiving at one school and change schools in order to find a more suitable education. In still other cases, the schools that students initially attend force them to leave because of academic or social problems, such as poor attendance or getting into fights.

Mobility rates among schools are due, in part, to the mobility among the students that they enroll. Some schools enroll students who come from families that are more likely to move. But student characteristics only explain some of the differences in mobility rates among schools. Some of the differences are due to the characteristics of the schools themselves, including their resources, policies, and practices.

As in the previous chapter, we used both the survey and interview data in investigating the causes of student mobility. We used these data to uncover the reasons students change schools as well as some underlying causes of student mobility. Of course it is difficult to fully understand the causes of any human behavior. Even when people are asked to explain their behavior, they may not be able to reveal what prompted their actions. Thus in this chapter we not only examine the stated reasons for mobility, but also some correlates or predictors of mobility that suggest other causal factors. We focused our analysis on mobility during secondary school because, as we found in the previous chapter, mobility during these four years is most critical to whether students eventually finish high school.

WHY STUDENTS CHANGE SCHOOLS

To investigate why students changed schools, we analyzed the reasons that students and parents reported for changing schools in both the NELS survey data and our student and parent interviews. We also asked school personnel why students changed schools. Finally, we developed a series of statistical models using the NELS data to see what factors predicted student mobility. As in the previous chapter, we first report the results of findings from each source of data separately and then synthesize the findings from these data sources.

Results from the NELS Data

In the 1992 NELS survey, both students and parents were asked about the reasons for student mobility during high school. Parents of NELS students were asked whether their sons or daughters had changed schools in the previous four year period since 8th grade. If they had changed schools, the parents were asked the reasons for the most recent school change. As we reported in the previous chapter, adolescents were more likely to report that they had changed schools than their parents. We attributed this discrepancy, in part, to parents not always being informed about what their adolescent was doing in high school. Thus, the parents' responses to the reasons their adolescents changed schools may be incomplete. Despite this limitation, it is still worthwhile to examine the reasons parents give for the school changes that they were aware of. These reasons are displayed in Table 4.1 for California and non-California parents. Because parents were able to identify more than one reason, the figures only represent the proportion of parents who indicated each stated reason.

Parents were asked about three types of reasons for changing schools. The first were family-initiated reasons due to the family moving. In both California and in the rest of the nation, 58 percent of the parent-reported school changes were due to moving. In some of those cases, parents reported that they moved *in order to* enroll their adolescent in another school. But in most cases the family moved for other reasons.

Table 4.1
Reason Reported by Parents for Most Recent School Change Between Grades 8 and 12 by California Residency

(percent reporting each reason)

	California	Other States
Family-Initiated		
Family moved to enroll in special program	14	13
Family moved for other reasons	41	48
Student-Initiated		
Student requested	46	37
Switch to private	8	7
Switch to public	8	8
Switch to magnet	5	2
Switch to spec course	13	14
School-Initiated		
Discipline problems	17*	5
Academic problems	13*	4
School closed	3	3

*Differences between groups are statistically significant at the .05 level.
NOTE: Responses based on data from 12th grade parent questionnaire. School changes exclude those due to promotion from elementary to middle school and from middle school to high school.
SOURCE: National Education Longitudinal Survey of 1988, 8th grade panel from the 1994 third follow-up survey.

The second type of reason that parents reported was due to their adolescents asking to change schools. Almost half of parents in California reported that their adolescents changed schools because they asked to be transferred, a higher percentage than parents in other states. In more than half of those cases, parents also reported that their adolescents changed schools to take advantage of a specific educational program or asked to be transferred to a public, private, or magnet school.

The third type of reason that parents reported was because the school asked their adolescent to transfer, either because of disciplinary or academic problems. In this area, there were very large differences between California parents and parents in other states. In California, about 30 percent of the parents reported that their adolescents changed schools because they were forced to, compared to about 10 percent of the parents in other states.

In the 1992 NELS survey students and dropouts were also asked whether they had changed schools in the four year period since 8th grade. Unlike their parents, however, they were not asked why they changed schools. Since they were asked whether their family had moved in the previous four year period, it is possible, based on the student responses, to examine the relationship between school mobility and residential mobility.

Many people believe that the main reason that students change schools is because their families move. Indeed, California families do move frequently. According to the NELS data, almost two-fifths of California students changed residences between the 8th and 12th grades (Table 4.2). This figure is only slightly higher than the rate of residential mobility in other states. However, changing residences does not necessarily result in a student changing schools. Families can change residences and still remain in the same school attendance area. And recent legislation in California enables students to remain in their local school even if their family moves to another school's attendance area. In California, more than 40 percent of all residential moves between the 8th and 12th grades did not result in students changing schools, while in the rest of the U.S. the figure was 50 percent. Just as some students move without changing schools, other students change schools without moving. In California, more than one-third of all school changes were not associated with a change of residences compared to 30 percent in the rest of the U.S.

These data are somewhat at odds with the figures reported earlier by parents. Parents were more likely than their adolescents to report that school changes were not related to moving. We believe these differences can be attributed to the time period being reported. Parents were reporting the reason for the last school change, while their adolescents were reporting whether they had ever moved over the previous four year period. Because students were focusing on a longer period of time, it is more likely that they would have reported that their families moved.

Table 4.2
Residential and School Changes Between Grades 8 and 12, by California Residency

(percentage distribution)

	California	Other States
Moved	38	37
Changed schools	21	18
Did not change schools	17	19
Did not move	62	63
Changed schools	13	8
Did not change schools	49	55
Total	100	100
Percent of residential changes ***not*** associated with changing schools	44	50
Percent of school changes ***not*** associated with moving	38	30

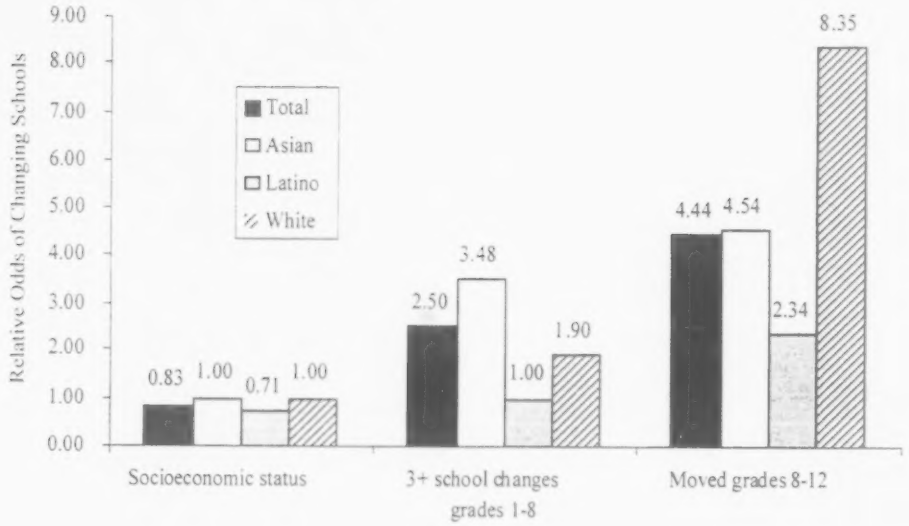
NOTE: Responses based on data from 12th grade student questionnaire. School changes exclude those due to promotion from middle school to high school.
SOURCE: National Education Longitudinal Survey of 1988, 8th grade panel from the 1994 third follow-up survey.

In addition to residential moves, what other characteristics of families prompted students to change schools? To investigate this question, we used the NELS data to test a series of statistical models to predict the unique or independent effects of a series of factors on whether students changed schools. This makes it possible to identify which factors are best able to predict mobility after controlling for the effects of other factors. For example, if family socioeconomic status is related to both residential mobility and school mobility, then such an analysis might reveal whether family socioeconomic status has any direct effect on school mobility after controlling for the effects of residential mobility. We performed the analysis for the entire sample of California students and then separately for Asians, Latinos and non-Latino Whites in order to see whether different factors predict mobility for these three groups. The complete results of the analysis are shown in Appendix Table A.5.

Significant estimated effects of student and family predictor variables on the relative odds of changing schools are shown in Figure 4.1. As we discussed in the previous chapter, the relative odds represent the ratio of the predicted odds of making a non-promotional school change due to a one-

unit increase in each predictor variable to the predicted odds without the one-unit increase. For example, a one-unit increase in socioeconomic status (measured in 8th grade) reduced the odds of changing schools for all students to .83 or by 17 percent. In contrast, students who moved between grades 8-12 were more than four times as likely to change schools than comparable students who did not move, an increase of over 300 percent. An students who changed schools three or more times between the 1st and 8th grades were two and a half times as likely to change high schools as otherwise comparable students who did not change schools during grades 1-8. This last finding suggests that high rates of mobility may be a chronic condition for some students and their families.

We estimated the same statistical models separately for Asians, Latinos, and non-Latino Whites to see if these general trends were similar among these three major ethnic groups. In general the patterns held, but there were some notable differences. Socioeconomic status predicted student mobility for Latinos, but not for Asians and Whites. High rates of elementary school mobility predicted high school mobility for Asians and non-Latino Whites, but not for Latinos. And although residential mobility predicted high school mobility for all three ethnic groups, its impact was most pronounced for non-Latino Whites, who were more than eight times as likely to change schools if they moved. For Asians and Latinos, the impact of residential mobility was less, which suggests that Asians and Latinos were more likely to change schools for reasons other than residential mobility.



NOTES: Relative odds represent the ratio of the predicted odds of changing schools (other than those due to promotion from one type of school to another) associated with a one-unit increase in each factor to the predicted odds of changing schools without the one-unit increase, controlling for differences in other student and family factors. All relative odds were statistically significant at the .05 level except those represented by a value of 1.00.
SOURCE: Appendix Table A.5

Figure 4.1
Relative Odds of Changing Schools between Grades 8 and 12 Due to Student and Family Characteristics

We also investigated some possible school-related reasons for changing schools through another additional statistical analysis of the NELS data similar to the one presented earlier. Ideally, we would like to look at the effect of school factors in the school where mobile students were enrolled prior to leaving. But NELS did not identify every school that mobile students attended, so instead we examined school-related factors in 8th grade. As in the previous case, we examined the impact of a number of school-related predictors of school mobility between the 8th and 12th grades for the total sample and for the three major ethnic groups after controlling for the effects of the student and family characteristics that we examined earlier. The complete results of the analysis are shown in Table A.5.

The analysis revealed that a number of social and academic factors in 8th grade predicted mobility among California students. Significant social predictors are shown in Figure 4.2. Students who were absent from school 15 to 25 percent of the time in 8th grade were 84 percent more likely to change high schools than students who were absent less than 15 percent of the time. An increase in school behavior problems in 8th grade increased the likelihood of changing high schools by 40 percent. And students who were not involved in any extracurricular activities in 8th grade were 58 percent more likely to change high schools than students who were involved in extracurricular activities. These findings support the conceptual framework for this study that suggests a lack of social engagement in school can contribute to student mobility.

NOTE: Relative odds represent the ratio of the predicted odds of changing schools (other than those due to promotion from one type of school to another) associated with a one-unit increase in each factor to the predicted odds of changing schools without the one-unit increase. All relative odds were statistically significant at the .05 level except those represented by a value of 1.00.
SOURCE: Appendix Table A.5

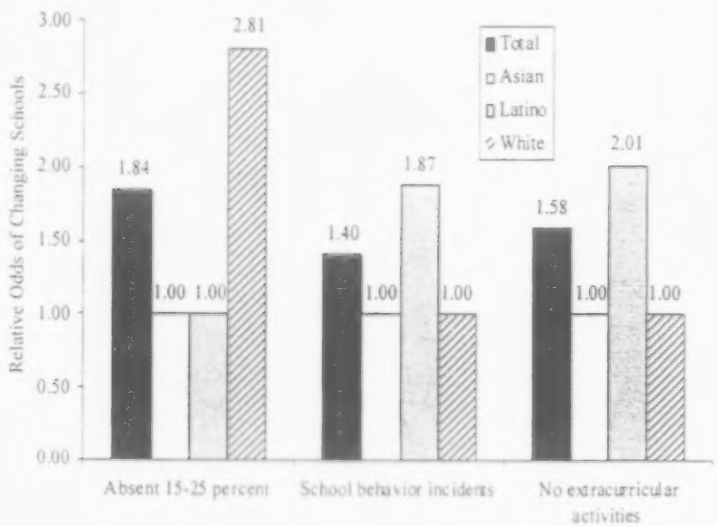
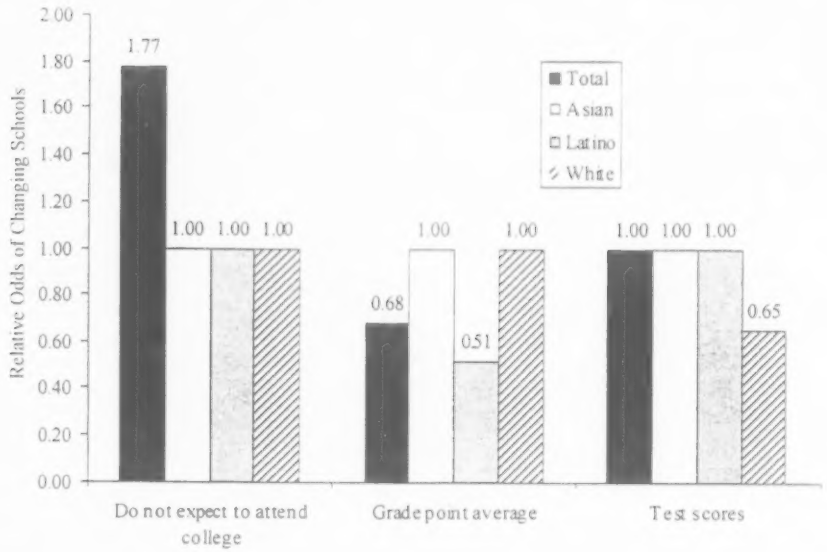


Figure 4.2
Relative Odds of Changing Schools between Grades 8 and 12 Due to Social School Factors

But as the conceptual framework suggests, academic factors should also predict student mobility. And, indeed, we did find a number of academic factors in 8th grade that predicted student mobility during high school (Figure 4.3). Eighth grade students with low educational

expectations—those who did not expect to attend college—were 77 percent more likely to change high schools than 8th grade students who did expect to attend college. And 8th grade students with higher grades were less likely to change high schools than 8th grade students with lower grades.



NOTE: Relative odds represent the ratio of the predicted odds of changing schools (other than those due to promotion from one type of school to another) associated with a one-unit increase in each factor to the predicted odds of changing schools without the one-unit increase. All relative odds were statistically significant at the .05 level except those represented by a value of 1.00.
SOURCE: Appendix Table A.5

Figure 4.3
Relative Odds of Changing Schools Between Grades 8 and 12
Due to Academic School Factors

The social and academic predictors of high school mobility just described pertain to the entire sample of California students in the NELS sample. But not all of these factors were significant predictors of mobility for Asian, Latino, and non-Latino Whites.[18] In fact, none of these factors predicted high school mobility among Asians. Among Latinos, both school behavior incidents and

[18] Because the samples used in this study are relatively small, it was not always possible to detect statistically significant effects. Yet the point estimates shown in Appendix Table A.5 generally show consistency across ethnic groups.

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grades predicted high school mobility. And among non-Latino Whites, absenteeism and test scores predicted high school mobility. One other difference found in the analysis (reported in Appendix Table A.5) was noteworthy: Asians and Latinos who attended urban schools in 8th grade were more than twice as likely as Asian and Latino students who attended suburban and rural schools to change high schools. Because Asians and Latinos were more likely to attend urban schools (see Appendix Table A.3) and were likely to attend segregated high schools (Rumberger & Willms, 1992), this finding suggests that there may be something about the urban schools many Asians and Latinos attend that contributes to their mobility. We address this issue below when we discuss mobility rates of high schools.

Results from the Student and Parent Interviews

Just as the survey data revealed that students change high schools for many reasons, so too did the interviews with students and their parents. In analyzing these data, we again produced a matrix display (Table 4.3) that provides a visual representation of the causes of student mobility as reported by the students, parents, and guardians we interviewed. The data reveal that some students decided independently to change schools, which we refer to as "student-initiated" mobility. Parents or guardians also made decisions that result in "family-initiated" student mobility. And school personnel affect "school-initiated" student mobility as well. Regrettably, two of our interviewees changed residences and subsequently, schools, as a result of being legally removed from an abusive household. These categories corresponded closely to those reported in the NELS surveys.

Table 4.3
The Causes of Student Mobility from the Student and Parent Interviews

Ethnic Group	Family Initiated		Student Initiated		School Initiated	Judicial Intervention
	Strategic	Reactive	Strategic	Reactive		
African-American	****	*******	***	*******	**	*
Latino	*	****		********* ********* ********* **	********	*
Non-Latino White	********** **	********** *****	**	******	***	
Vietnamese-American	******	****			****	
Korean-American	********** *******	*******	**	*********	**	

Note: Each cell entry (depicted as an asterisk) in the Table 1 represents a parent's or child's statement or direct quote

Considered as a whole, the matrix enables the identification of emergent themes and causal patterns embedded in the hundreds of pages of interview data we collected over the past year. The interviews revealed that the reasons for changing schools could be classified into two types: reactive moves, which were unplanned moves made in reaction to some situation in the family or school, and strategic moves, which were purposeful, planned moves made to achieve some desired end, like a better home, school or community situation. For example, the large number of asterisks in the matrix column representing *reactive* student-initiated school changes indicates that most student interviewees who made their own decisions to change schools, did so in reaction to some phenomenon outside the scope of their control. This is a particularly notable finding given the high percentage of student-initiated school changes revealed in the survey data.

The analysis also revealed differences among ethnic groups. For example, the majority of family-initiated moves among Korean and Vietnamese American interviewees were strategic,[19] while the other ethnic groups in our study reported family-initiated school moves to be mostly reactive in nature. Strategic family-initiated school changes are often due to job promotion, identification of a better school, or a purposeful move to a more supportive community. In a statement represented by a single asterisk in the column labeled "Family Initiated" and "strategic", one Korean-American parent reported:

> *We focused on [our son] going to college so we moved him to Warrenville High. His cousin graduated from there and then UC Berkeley.*

A Vietnamese-American student of Chinese ancestry explained her mother's reason for initiating a strategic residential move:

> *I left South High because my Mom wanted to move to a different area where I could be in the Chinese community and learn Chinese.*

Although most Asian interviewees reported strategic family-initiated school changes, Luy's family initiated a school change in reaction to negative circumstances. "*My mom was afraid of all the gangs at the old place, so that's why we moved here*," she said. And although African-Americans, Latinos, and non-Latino Whites mostly reported reactive family-initiated school changes, interview data reveal exceptions to this pattern as well. Among the non-Latino Whites interviewees, Lisa's mother reported a strategic family-initiated change of residence that caused Lisa to change schools:

> *The first time [we moved] we bought a house -- we had been renting prior. And this was a nice, great family house to spend the rest of our lives in. I was pursuing my dreams and wanted to be somewhere where I wanted to live.*

Addressing reactive family-initiated school changes, death or divorce in the family sometimes caused students to change schools. For those receiving public assistance, federally funded housing requirements also catalyzed residential and, subsequently, school mobility. And as reported above,

[19] Researchers have suggested that "loss of face" constitutes an important value orientation difference between Asian-Americans and other race/ethnic groups (Zane, 1991). This value orientation, which is particularly concerned with the maintenance of one's social integrity (Ho, 1987; Sue, 1981), may have discouraged Asian-Americans from openly sharing incidence of *reactive* family-initiated school changes. Although interviewers and interviewees were matched based on gender, language orientation, and race/ethnicity, we acknowledge that value orientations, including "loss of face" may impact the validity of our interview data.

some changed residences and schools to escape unsafe communities, or to avoid gangs and racial tensions in communities and schools. Families also initiated school moves in reaction to teachers with whom they are not pleased. According to Nate's mother:

> *Nate got a certain teacher that he didn't -- I don't know whether this is a good or a bad reason to switch schools, but -- Nate was doing horrible, and the teacher, she was... I couldn't even talk to her.*

Laura and Erin changed schools as a result of parents splitting up. According to Laura:

> *A lot of people I know switch schools because of parents getting divorced so they move. It's mainly because of that. Almost everyone I know switched because they moved and the move is mostly due to parents separating.*

Many students changed schools because they experienced social problems in the school context, including racial tension, problems with teachers, and in some cases, gang violence. We labeled those as "Student Initiated" and "reactive". Carlos, a Guatemalan-American student, chose "flight over fight" in response to an unfriendly school environment:

> *I was from a party crew... and nobody liked me... So I didn't want to get involved with them. I didn't want to fight with them. So I avoided that and moved.*

Nate, a non-Latino White student, decided to change schools during the middle of tenth grade:

> *I didn't really have anyone to talk to. I didn't really have any connections at the school, so I just wanted to leave, basically just for the social problems.*

In all, more than 50 separate student-initiated/reactive reasons for changing schools were identified through careful analysis of the interview data. In contrast, only a handful of statements from interviewees depict strategic student-initiated reasons for changing schools, such as joining a prominent athletic team at another school or transferring schools to be with close friends. In general, there was a consistent pattern among all interview groups. Student-initiated school changes were largely reactive in nature, regardless of race/ethnicity. Family-initiated changes suggested at least some identifiable differences among ethic groups.

The interview data found that school personnel also initiated student mobility, often transferring students for behavior-related reasons—an occurrence euphemistically referred to as "Opportunity Transfer" or "OT". Interviews with school personnel were particularly informative regarding OTs, but students and their parents/guardians referred to this issue. Interestingly, although

Opportunity Transfers are employed to address problems such as fighting in school, our data also revealed that poor grades or insufficient credits sometimes precipitated school-initiated student mobility. Some students were transferred to continuation schools in order to make up credits toward graduation. According to Keion's grandma:

> *Keion [was transferred to another school] because of his grades. He was canceled out. If he had kept up his grades they would have let him stay.*

Susan was forced to change schools because of attendance problems:

> *I went to Johnson High because I got OT'd. It's like if you have too many absences or like if you have too many tardies or something like that, and if you're not meeting school expectations then they just like let you go and if you improve in another school then you can come back.*

School personnel sometimes OT'd students to protect the student from unsafe social environments largely related to gang activities in urban school settings. According to Alejandra:

> *I got kicked out 'cause I had gang problems. I got jumped by a guy. I got jumped on a Friday and went to school on Monday and I got kicked out for my protection, I guess. They had to transfer me.*

In summary, interview data reveal numerous causes of student mobility, most of which can be broadly categorized as student-initiated, family-initiated and school-initiated. Several causal trends were particularly worthy of mention. First, while culture and race-based value orientations embedded in the interview data may temper the strength of this finding, strategic family-initiated school moves are particularly characteristic of Asians and less characteristic of the other race/ethnic groups in our study. Second, student-initiated school moves were reported as mostly reactive in nature, often in response to negative factors over which students have little control.

Interviews with School Personnel

School personnel had their own views about why students changed schools. Their responses were similar to those reported in the NELS survey data and the student and parent interviews: some mobility can be attributed to family circumstances, some to students and their behaviors, and some to school and district policies.

Family Causes. School personnel identified two family-related reasons that students changed schools. One was economic. In fact, nearly all of the educators that we interviewed felt that family economics was the primary cause of student mobility, such as when families pursue jobs or move up the economic ladder (strategic changes) or are forced to move due to financial problems (reactive changes). Mr. Smith, a teacher at Mount Hollyfield High School, described his mobile students:

> *I have students who have to leave my classes because of work. I have a lot of students who change classes because of work. Life sometimes forces these kids to leave school to work.*

Mr. Jackson, a teacher at Covington Middle School, also identified family-related reasons that students change schools:

> *I would venture that a great deal of transience has to do with parents and where the parents work and live and where they deem school to be better schools and safer schools.*

The second factor identified to cause mobility was family disruption. Educators cited many causes of family disruption—foster care placement, social-emotional problems, divorce, alcoholism, teen pregnancy—which would generally lead to reactive school changes. Mr. Barnard, the principal of Cabrillo High School, attributed mobility in his school to such reasons:

> *Ours are moving because mama got put in jail so they're living with an aunt. Maybe they're going to live with their father. Something like that.*

Mr. Veracruz, a counselor at Caroledale High School, made a similar observation:

> *And a lot of them are living with extended families and they need their emotional families back home. What happens is that we find that from one month to the next, a lot of times students move from one house to the next ... foster home students tend to change residences quite*

Mr. Bodifer, a PSA counselor at Caroledale High School, also identified this reason:

> *The big issue is that parents are looking for better opportunities, or their luck has turned for the worst and the kid has to go live with grandmother, but then they only stay so long before their luck changes and then they move again.*

School Causes. By far, teachers and counselors identified the primary cause of mobility attributable to schools as administrative opportunity transfers (OT's). These OT's are initiated by a school administrator and are primarily a disciplinary action and sometimes the result of ongoing

truancy or poor attendance, or poor academic achievement. Interestingly, no administrators identified this phenomenon although it is an administrative decision and not a teacher decision. Most teachers frowned on this practice and thought it counterproductive or "just sweeping the student problem away and not solving it. Mr. Smith identified this reason:

> *OK, yeah, opportunity transfers, that's just a revolving door, another euphemism. What it means basically is if you're in trouble, he'll [the principal] kick you out.*

Mrs. Franklin, a teacher at La Patera High School, characterized opportunity transfers this way:

> *I do my own discipline because I don't want them thrown into that structure that does nothing but shuffle the cards.*

Finally, Mr. Gonzales, a counselor at Cabrillo High School, identified both the causes and consequences of opportunity transfers:

> *...and if they continue to be truant and miss certain classes, they get OT'd. And we have quite a few of those. Given the fact that I coordinate the mental health program at the school, I deal with the aftermath of that.*

Teachers that we interviewed also identified another type of mobility impacting both students and teachers: "within-school mobility." This type of mobility arises from within-school class changes—changing a student's schedule often due to mistakes in original scheduling but also the result of cancelled or added classes. Although the majority of such changes is done during the first six weeks of the semester, many still occur even later in the semester. And teachers were quick to point out that any such changes after the first week of the semester disrupted their lessons and ongoing activities. In fact, teachers felt that within-school mobility was just as disruptive to classrooms as transfers coming from a different school. No one in any of the schools was able to report the number or percentage of schedule changes made in a given school year so the prevalence of this phenomenon is not known. One teacher, Ms. Landeverde, felt that within-school mobility was a major source of student transience in her class:

> *Many of the students who are leaving, probably 40%-50% (based on general experience) leave because of schedule changes because the administration has made one mistake or many.*

One factor that contributes to within-school mobility is student failure. *"They aren't allowed to keep going. Once they fail, they're out of that class."* reported Mrs. Damion, a counselor at Windsor high school.

WHY SOME SCHOOLS HAVE HIGH MOBILITY RATES

As we demonstrated in Chapter 2, some high schools in California have extremely high student mobility rates—in excess of 40 percent over a two year period—while others have extremely low student mobility rates—less than 10 percent over a two year period. What can account for these differences? We investigated this question using both the HSES data and the school interviews.

Results from the HSES

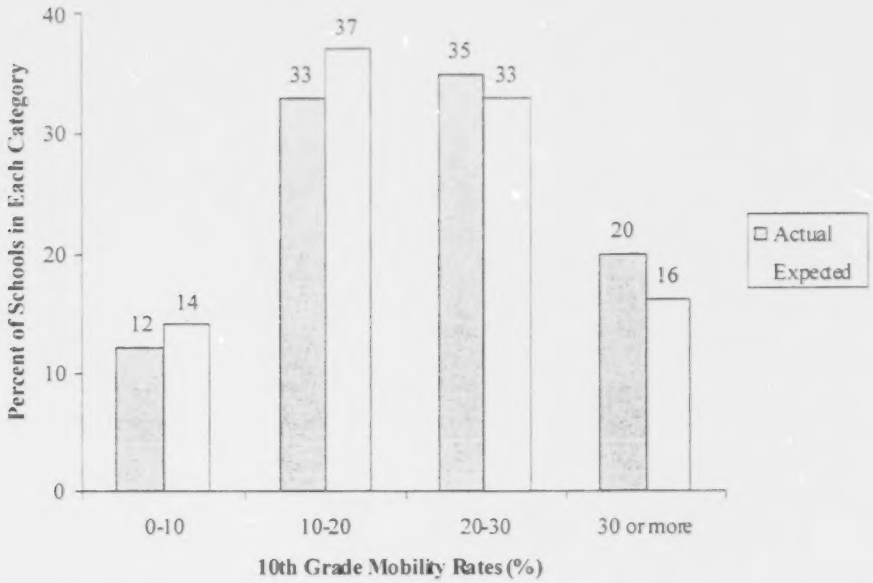
One possible reason for high mobility rates is student characteristics. Schools vary widely in the types of students they enroll. If schools had a high proportion of students from families who are more likely to move and change schools, such as families from low income or socioeconomic status backgrounds, then those schools would be expected to have higher student mobility rates simply because of the background characteristics of their students. In this case, the high mobility rates of such schools would be attributable to the characteristics of the students and not to the policies and practices of the schools themselves. However, it could also be the case that some schools have high mobility rates that are due to the kinds of schools they are, not the kinds of students they enroll. In this case, the high mobility rates would be attributable to the schools and schools are responsible for their high mobility rates.

In this study we employed a relatively new statistical modeling technique that provides a way of determining how much of the actual differences in student mobility rates of high schools are attributable to the types of students that are enrolled and how much is due to school-related factors. Based on this technique we estimated an expected student mobility rate for all 51 high schools in our sample of California high schools on the assumption that all schools enrolled students with same the characteristics—the average or mean characteristics of all the students in the entire sample of

schools. By comparing a school's actual student mobility rate with its expected student mobility rate, we can determine how much of the differences in student mobility rates between schools are due to student background characteristics. The results of this analysis for the entire sample of California high schools are shown in Figure 4.4.[20]

The left-hand figures show the actual mobility rates for California high schools. The right-hand figures show the expected student mobility rates that were calculated. There are fewer differences between schools in expected mobility rates than between schools in actual mobility rates because expected mobility rates are based on the assumption that all schools enroll the same types of students. For example, while 20 percent of the high schools in California had actual student mobility rates in excess of 30 percent, if all high schools enrolled the same types of students we would expect 16 percent of the high schools in the state to have student mobility rates in excess of 30 percent. In other words, the number of high schools with high mobility rates would be reduced only by about one-fifth if all high schools in the state enrolled the same kinds of students. This suggests that the characteristics of schools, not the characteristics of students, have a lot to do with differences in the mobility rates of schools.

[20] The estimates for the actual rates in Figure 4.4 are slightly different than those shown in Figure 2.2 because the former were based on the California sample of 51schools while the latter were based on the entire sample of 247 U.S. schools.



NOTE: Actual 10th grade mobility rates represent the estimated percentage of 10th grade students who left school after two years. Expected rates control for differences in the characteristics of students attending school.
SOURCE: Residuals from the null and student HLM models in Appendix Table A.8.

Figure 4.4
Actual and Expected 10th Grade Mobility Rates for California High Schools

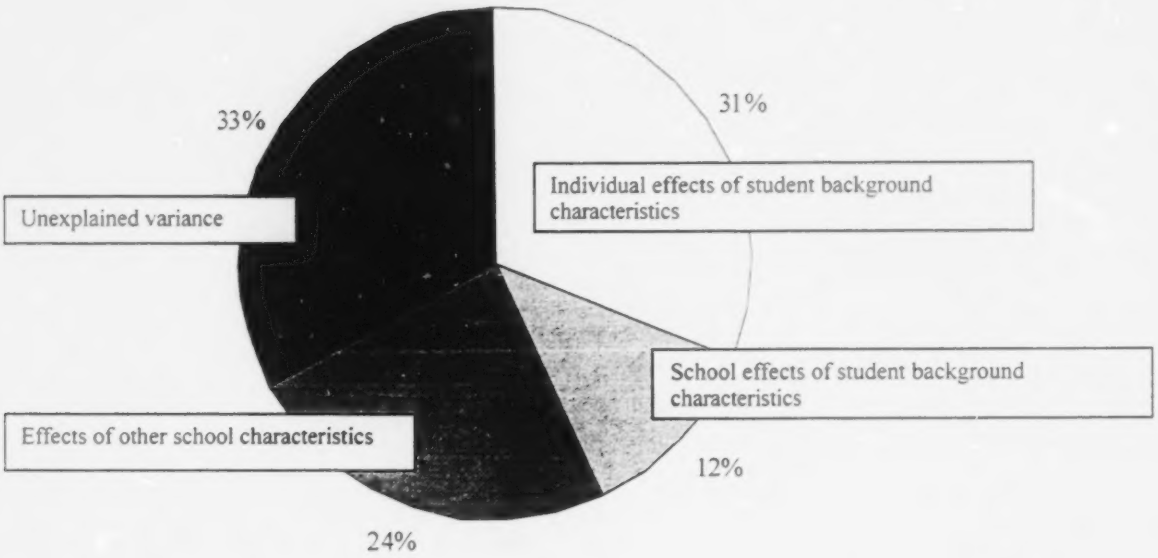
Overall, we estimated that 43 percent of the differences in student mobility rates among high schools in the sample are due to the effects of student background characteristics. But as we discussed in the previous chapter, student background characteristics have two effects on school outcomes: one is the individual effect, where student background characteristics only affect the educational outcomes of individual students, and the other is the school or compositional effect, where the aggregate composition of students in the school affects the educational outcomes of all students in the school above and beyond the individual effects of student background characteristics. The school effects of student background characteristics reflect how schools respond to the types of students they enroll at the school level, either in specific ways—such as particular policies and practices they

put in place—or in general ways—such as how the make-up of students in the school affects school climate or teacher morale.

Either schools or school districts may be responsible for the school effects of student background characteristics. For example, if teachers in schools with large numbers of low-performing students have low expectations and standards, then the teachers and their schools are responsible for such a condition. However, if good, experienced teachers prefer not to teach in schools with large numbers of low-performing students and their school districts allow such teachers to teach in the schools of their choice, then schools with large numbers of low-performing students may have a lack of good, experienced teachers compared to other schools in the district. In this case, individual schools are not responsible for such a condition, but school districts are.

In our analysis, we estimated both the individual and school effects of student background characteristics as well as the effects of other school variables that were available in the HSES data to determine how much of the differences in mobility rates between schools could be explained by these variables. The results, shown in Figure 4.5, reveal that 31 percent of the differences in school mobility rates could be attributed to the individual effects of student background characteristics, 12 percent could be attributed to the school effects of student background characteristics, 24 percent could be attributed to other school characteristics, and 33 percent could not be explained by any of the variables in our statistical models.[21] Altogether more than a third of the differences in student mobility rates among California high schools can be attributed to school characteristics, such as school resources, policies, and practices—a higher proportion than due to the characteristics of students themselves.

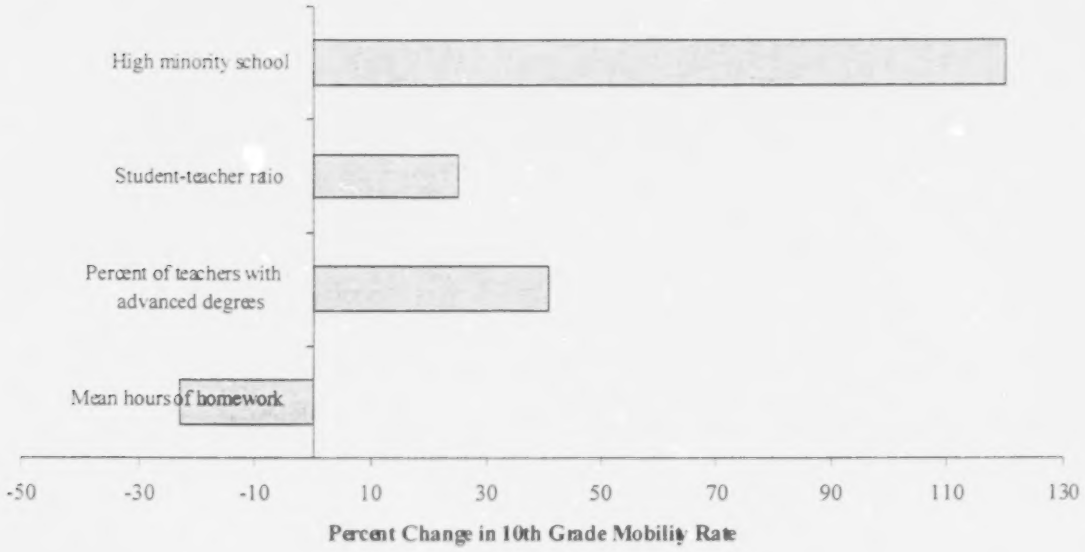
[21] This unexplained variance is due to both unmeasured student and school characteristics.



SOURCE: Appendix Table A.8

Figure 4.5
Percent of Differences in Student Mobility Rates among High Schools Explained by Student and School Characteristics

Based on the data available, we investigated whether the specific school characteristics we were able to measure could explain differences in student mobility rates. Altogether, we investigated the impacts of a wide array of measures, including student composition, school resources, structural characteristics of schools, and school policies and practices (for a complete list of variables, see Appendix Table A.6). We found four school characteristics significantly predicted differences in mobility rates among high schools after controlling for the individual effects of student background characteristics. For each of these school characteristics, we estimated the percentage that the average mobility rate of a high school would be expected to increase or decrease due to a change in the value of that characteristic. The results of the analysis are displayed in Figure 4.6.



NOTE: Figures represent approximate percent change in mean school dropout or turnover rates due to a one standard deviation increase (for continuous measures) or one unit increase (for dichotomous measures) in predictor variable, controlling for effects of other variables in the model.
SOURCE: Appendix Tables A.8

Figure 4.6
Percent Change in Mobility Rates Due to Changes in School Characteristics

One school effect related to student background characteristics predicted differences in mobility rates between high schools—the concentration of Black and Latino minority students. High schools with more than 40 percent Black and Latino students had mobility rates 50 percent higher than high schools with lower concentrations of Black and Latino students, even after controlling for the individual effects of socioeconomic status, academic background, and other student background characteristics. This result means that schools with high concentrations of minority students had higher mobility rates not because of the students themselves, but because something else in these schools impacts student mobility above and beyond the effects of background characteristics of individual students.

Two characteristics related to school resources also predicted student mobility rates—the student-teacher ratio and the percentage of teachers with advanced degrees. High schools with higher student-teacher ratios had higher mobility rates than schools with lower student-teacher ratios, whereas schools with a higher percentage of teachers with advanced degrees had higher mobility rates as well. The former result suggests that additional teachers could help to curb mobility rates, perhaps because teachers with fewer pupils in class have a better chance of engaging students. The result about advanced degrees is surprising, since conventional wisdom would suggest that better trained teachers would be more likely to engage students and reduce turnover. This latter finding could simply be due to the teachers or it could be due to other aspects of schools that employ such teachers. For instance, perhaps more well-trained teachers or the schools that employ them are more academically oriented and less tolerant or hospitable toward students who do not fit into that environment, thus increasing mobility of lower achievers.

One school practice significantly affected student mobility rates, even after controlling for the effects of all other student and school factors—the average amount of homework that students reported doing each week. Schools with higher levels of homework had lower turnover rates, which again suggest that more engaged students are less mobile. Other school policies and practices could also be important in reducing student mobility, but they could not be detected independently of other factors.[22]

Results from the School Interviews

Which school policies and practices contribute to the high mobility rates of some California high schools? Our interviews with students, parents, and school personnel cited above mentioned one practice—opportunity transfers. Although all schools in California can use opportunity transfers to remove difficult students for either social or academic reasons, some schools may be more willing to make use of this practice.

[22] One reason is that many characteristics of schools are interrelated. For example, the mean socioeconomic status of students in the schools was strongly correlated with average daily attendance (.53), teachers' engagement or locus of control (.54), and the percentage of students in an academic track (.61). So adjusting student mobility rates for

Educators identified two other causes of mobility created at the district level: open enrollment and overcrowding. Open enrollment, which was put in place in California in the early 1990s, allows any student to be granted a transfer to another school if the other school has room. Educators felt that students regularly exercised this choice. In fact, next to opportunity transfers, open enrollment was identified in our interviews as the second most frequent cause of school mobility. Some educators felt that students who were not succeeding often chose to change schools through open enrollment while other students made more strategic changes. As Mr. Barnard, the principal of Cabrillo High School, explained: *"... we have open enrollment where parents elect to take their children to a school of their choice where there is space available."* Mr. Sanchez, a counselor at La Patera High School, described it this way:

> *Student transience could be that the grass is greener somewhere else ... students sometimes feel that one school may have something different to offer them than what another school has to offer.*

Mrs. Damion, a counselor at Windsor high school, saw a connect between mobile students and dropouts: *"Almost the most [impacted] is the semi-dropout .. they just go from school to school."*

According to the educators we interviewed, another situation contributes to student mobility—overcrowded schools. All of the schools where we interviewed, suburban as well as the inner city, were burgeoning with students—they were full or nearly full, and two had over 3500 students enrolled. High rates of students leaving a given school helped accommodate new students - a musical chairs so to speak - but many inner city students still has to be bused to less crowded schools. Ms. Thomas, a teacher at Los Carneros High school, identified this problem:

> *What we needed years ago in these communities was more schools. We send minority kids on the buses to keep other schools open ... because the inner city schools are full.*

Mr. Martinez, an assistant principal at Los Carneros High School, also identified the impact of overcrowding on student transiency:

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differences in student composition understates the contribution that school policies and practices make to student mobility rates.

We capped this year. We had too many students in our attendance area, so we had to bus students from this school to a nearby school and we bused 200 students away.

SUMMARY

In this chapter we investigated why students change schools and why some schools have high student mobility rates. Again we drew on both survey data and interview data to address this important aspect of the student mobility issue. And again the analysis of these data tended to converge and corroborate each other, leading to several major findings about the causes of mobility among students and schools.

First, only half of all high school changes are due to families changing residences. We examined both the stated reasons students change schools and some predictors of mobility during high school. We found that students change schools for a variety of reasons. Some are family-related reasons. Most of the educators we interviewed felt that residential mobility was responsible for most of the student mobility they observed at their schools. But our analysis of parent survey data in California revealed that only about half of all secondary school changes involved changing residences, with some family moves prompted by a desire to enroll in another school. Interviews with students and their parents revealed that residential changes are prompted by both economic considerations, such as changing jobs, and by family disruptions, such as divorce or separation.

Second, students themselves often initiate school changes at the high school level, especially in California. According to parent survey data, almost half of recent high school changes were initiated by adolescents requesting a change of school. Interview data from students and parents revealed that most of the student-initiated changes were reactive rather than strategic in nature—students changed schools to escape a bad situation rather than to actively seek a better situation. Students reported that sometimes they were escaping social isolation or an unsafe school environment; other times they were escaping what they considered to be a hostile academic environment.

Third, schools often initiate mobility, especially in California. Schools can force students to transfer for both social and academic reasons. Fighting or poor grades, for example, can prompt a school to seek an alternative placement for students. Our analysis of parent survey data showed that students in California were much more likely than students in other states to be subjected to school-initiated transfers. This raises the question of why schools in California should continue such changes especially in light of our earlier findings that high school changes increase the risk of dropping out.

Fourth, both student-initiated and school-initiated school changes are prompted by social as well as academic situations. Our statistical analysis of the student survey data supported the idea that both social and academic factors contributed to student mobility. For example, school behavior incidents in 8th grade increased the likelihood of high school mobility, while better grades in 8th grade reduced the likelihood of high school mobility. These findings support our study's initial conceptual framework suggesting that student mobility, like student dropout, is influenced by student's social and academic engagement in school. Our analysis of interview data modified this initial framework, however. It revealed that although the process of changing schools is often reactive, for some students it can also be a strategic strategy to find a better school environment.

Fifth, one out of every eight students in California is "chronically" mobile, experiencing high mobility through their elementary and second school careers. Our statistical analysis revealed that students who made frequent (3 or more) school changes during elementary school (grades 1 through 8) were more likely to change high schools. This means that chronically mobile students attend 6 or 7 schools over a 13 year period, which hampers their ability to engage in school and, as we found in the previous chapter, greatly increases their risk of school failure.

Sixth, the reasons for changing schools vary among ethnic groups in California. Our student and parent interviews revealed differences between Asians, Latinos, and non-Latino Whites in the reasons for changing schools: Asians more often made strategic, family-initiated school changes, while African-Americans, Latinos, and non-Latino Whites more often made reactive school changes. Our statistical analysis of student survey data also revealed differences between these three groups:

Latinos who reported school behavior incidents during 8th grade were more likely to change high schools, even after controlling for the effects of other student and family factors.

Our investigation of the causes of high mobility rates among high schools also yielded some important findings.

First, more of the differences in student mobility rates among California high schools can be explained by school characteristics rather than the characteristics of students enrolled. This means that not only students (and their families), but also schools are accountable for the high mobility rates found in some California high schools.

Second, the composition of students in high schools affects student mobility rates above and beyond the individual effects of student background characteristics. In particular, we found that high minority schools had high student mobility rates. Other empirical studies have demonstrated that student composition affects school performance (Lee & Bryk, 1989; Rumberger, 1995; Rumberger & Willms, 1992). Case studies of individual schools suggest that schools with high concentrations of minority studies tend to be large, located in poor, urban centers, and have policies that actively promote student turnover (Bowditch, 1993; Fine, 1991; Hess et al., 1986). Our interviews with school personnel identified two additional conditions found in large, urban and high minority schools that could contribute to student turnover: open enrollment and overcrowding. Open enrollment allows students to readily change schools if they can find one with sufficient space, while overcrowding prompts schools to transfer students even if they wanted to enroll them.

Finally, school resources and an environment that increases student engagement can reduce student turnover. We found that schools with lower student-teacher ratios had lower student mobility rates than other schools, even after controlling for differences in the characteristics of students involved. We also found that schools where students reported doing more homework also had lower mobility rates. Both findings suggest that school policies and practices can affect student mobility rates.

Chapter 5

WHAT SHOULD BE DONE?

What can and should be done about student mobility? The answer to this question depends on how one views this phenomenon. If mobility is viewed largely as a strategic activity initiated by students and their families to serve their own interests and educational preferences, then any response to this issue should be directed toward them. And there may be little that can be done to prevent mobility when mobility is a result of families' decisions to change jobs or residences. In this case, the only response is perhaps to better inform students and parents about the possible problems that can result from changing schools and how to mitigate them.

However, as we have demonstrated in the previous chapters, a large share of student mobility, at least during secondary school, is not associated with family residential changes and is not strategic. Rather, both students and schools initiate student transfers in response to social as well as academic concerns. Moreover, there is substantial evidence, both from the data presented in this study and data reported elsewhere (Lee & Burkam, 1992; Rumberger & Larson, 1998a), that demonstrates mobility during high school increases the risk of dropping out.

We believe that much can and should be done both to prevent some types of mobility, especially reactive school changes, and to mitigate some of the harmful effects from mobility. We also believe that students and families, as well as schools should help address this problem. Furthermore, the State of California, having a constitutional authority over the State's education system, should be involved in addressing this important educational issue.

In the rest of this chapter, we suggest some responses to mobility that could be undertaken by (1) students and their families, (2) schools, and (3) state policymakers.

WHAT STUDENTS AND FAMILIES SHOULD DO

Although our research found that school changes during high school increase the risk of dropping out, clearly not all school changes are detrimental. In fact, we found that strategic or purposeful school changes can be beneficial. Moreover, students and parents have the right to choose the best high school for their needs. But we also found that many times students change schools in reaction to unpleasant or undesirable situations in their school, often in the middle of the academic year. Some of those changes are unnecessary as well as detrimental. Consequently, we believe there are a number of things that students and parents can do to help prevent "needless" mobility as well as to help to mitigate the potentially harmful effects of mobility that may be necessary or desirable:

1. **Attempt to resolve problems at school before initiating a school transfer.**

Our interviews with students found that many times students change schools in reaction to a problematic social or academic situation in their school. Students and parents, as well as school officials, often believe that simply by changing schools such problems will be resolved. But students report that such problems are not always fixed. For example, if a student is having difficulty getting along with other students, simply changing schools will not automatically resolve this difficulty and further requires a student to adjust to a new school environment. Therefore, it is probably better in some cases to attempt to workout the difficulty in the current high school before initiating a transfer.

2. **If possible, make school changes between semesters or at the end of the school year.**

Teachers report that students who transfer after the beginning of the semester are usually behind other students in their class work, increasing their risk of failure. This may not be the students' fault—we found that students are often put in classes that do not correspond to what they were in before either because appropriate classes were full or because their new school did not take the time to make an appropriate placement. But whatever the reason, transferring in the middle of a

semester introduces additional risks. Students can reduce these risks by transferring between semesters or over the summer.

3. **When a transfer is made, parents should personally sign students into their new school and meet with a school counselor. They should also make sure that their child's school records are forwarded in a timely manner from their previous school.**

Students and parents should do everything they can to ease the transition to a new school setting. This includes trying to secure appropriate course placements as well as an orientation to their new school setting. One way to accomplish this is to meet with a counselor at their new school immediately after arriving.

4. **Parents should make a follow-up appointment with a school counselor and teachers two or three weeks after a transfer is made to see how their adolescent is adjusting to the new school.**

Adjusting to a new school is often difficult for students. There are psychological, social, and academic challenges to overcome. Parents should monitor closely how their adolescent is adjusting to their new school setting. One way to check on their child's progress is to make a follow-up appointment with a counselor and some teachers to see if there have been any reports. Of course they can ask their own child about day-to-day experiences as well.

WHAT SCHOOLS SHOULD DO

Schools, like students and parents, can work to reduce unnecessary mobility and to mitigate its harmful effects. Potentially the most effective strategy to reduce mobility is to improve the overall quality of the school. By doing so, students and parents are more likely to remain at a school than to leave in search of a more suitable educational environment. Case studies have documented that schools undertaking substantial and meaningful reforms can dramatically reduce their student mobility rate. For example, in a three year period from 1987 to 1990, Hollibrook Accelerated School in Houston Texas reduced its student mobility rate from 104 percent to 47 percent (McCarthy & Still, 1993, p. 80). Programs that target high-risk students—those who are most likely to leave a school—have also been shown to dramatically reduce student mobility. The ALAS

Dropout Prevention program reduced student turnover among the most at-risk Latino students in a Los Angeles area middle school by one-half (Larson & Rumberger, 1995).

In addition to these large-scale efforts, schools can undertake some specific strategies to help address problems associated with mobility. Counselors can do a number of things:

1. **Counselors should urge students to remain in the school if at all possible.**

Again, some school changes are unnecessary and detrimental. Counselors can "problem solve" with a withdrawing student about how he or she could remain at least until the year end—for example, suggesting that students use public transportation if they moved out of the neighborhood or be transported by a family member. Counselors should also require a parent to be present to help resolve these issues.

2. **Counselors and administrators should prepare in advance for incoming transfer students.**

Schools can improve the transition and adjustment of incoming transfer students by planning materials and activities for such students before they arrive. This will not only aid students, but will help reduce the sudden demands that processing such students often requires. Some specific activities that could be undertaken include:

- Create extra sections of required courses at the beginning of the school year to accommodate the expected increase in transfer students throughout the year. Schools that are heavily impacted by incoming mobile students can help reduce the problem of students not getting into required courses by opening up more sections of such classes at the start of the year even if that means having smaller classes initially.
- Make orientation video about the school. This should be made in the dominant languages of the school and be appropriate for students and parents. Make the video in such a way that changes in key personnel or extracurricular activities (e.g., nurse, assistant principal, new club) can be integrated into the video with little effort.
- Develop short assessment test for reading, writing and computing as a way to determine which class to assign the student if the student does not bring a transcript.
- Create and train a corps of student volunteer coaches who have entered the school late. These volunteers can be matched with new students to provide transition support.
- Create inviting information packets of extracurricular activities.
- Create interesting information packets of special services the school offers (e.g., specialized counseling groups, special classes) and how students can access such services.

- Organize students to provide weekly on-going information booths at lunch where they explain the various extracurricular activities and how to join.

3. **Counselors or administrators should facilitate the transition of incoming transfer students as soon as they arrive.**

Schools can help to mitigate some of the harmful psychological, social, and academic impacts of student mobility. Some specific actions they can take are:

- Encourage new students to enroll in a class without credit to gain experience and then reenroll for credit at the semester or new year.
- Assign a very late-arriving student to independent study where credit can be earned until the new semester or year end.
- Encourage new student to join extracurricular activities or, if appropriate, a counseling group.
- Make an appointment with the transferring student to phone or come by in one or two weeks after they arrive to discuss how things are going in the new school. This will encourage the new student to reenroll immediately and can provide crisis intervention if needed.

4. **Schools should establish on-going activities and procedures to address the needs of new students.**

The problems that students face adjusting to a new school can continue for a long time. Therefore, schools need long-term strategies to address these problems if they wish to be successful in engaging and retaining their new students. Some specific actions schools can take include:

- Provide a "new student" group to meet at lunch. This weekly group can have a specific curriculum for a specific number of meetings (e.g., a 10 week group). The meetings should encourage the students to express their personal psychosocial challenges of being new to the school or neighborhood as well as present the new students with information on community resources for youth.
- Provide after-hours (evening or Saturday) parent conferencing.
- Create referral procedures for new students who are showing adjustment problems.
- Sponsor school-wide "acquaintanceship" contests or activities to encourage student body to get to know a student they might not otherwise meet.
- Recruit staff and teachers to mentor a new student who might have difficulties academically or socially.

Teachers, too, can help the transition and adjustment of incoming students in their classes. Like counselors and administrators, teachers can take actions before, during, and after the arrival of new students in their classes:

5. **High schools should assess the past enrollment history of incoming students, including the number of previous school changes, and closely monitor the educational progress of students with three or more previous school changes.**

Our findings reveal that students with three or more previous school changes between grades one and eight are much more likely to change high schools and subsequently drop out of school. Therefore, schools should routinely assess the past enrollment history of incoming students in order to identify such students and target interventions for them. The enrollment history should also be used to identify other risk factors, such as those who have been retained in earlier grades, since those factors also increase the risk of dropping out.

6. **Teachers should prepare <u>in advance</u> to accommodate incoming students.**

Teachers facing a large number of new students in their classes throughout the school year can prepare in advance for their arrival. This will help the students and reduce the immediate demands on the teachers at the time of their arrival. Some specific things that teachers can do include:

- Develop learning packets with important background information and activities of key units so that when a student comes in the middle of a unit they can be given the learning packet as a catch up. If these assignments are created to cover specific pages or lectures then the teacher can give those assignments necessary to bring the student up to the present. These learning packets might also be used for remediation, review or extra credit for stable students in the class.

- Create subject matter skills assessment test. This test should assess the student's proficiency in skills that a student would need to achieve with a particular teaching style or subject matter. For example, an English or history teacher might assess dictionary skills or ability to summarize a newspaper article.

- Create reading comprehension and writing assessment test. The teacher can use excerpts from different grade level textbooks or a standardized assessment test.

- Create personal information assessment or journal assignment. Develop a list of 5 to 10 personal questions that the student can answer in two pages. This will not only help the teacher know the student better but also provide a sample of writing skills. A variation of this is to ask the student to write a personal response essay to a social question that

requires an opinion and justification. For example, some question about capital punishment, racism, education, teen issues.

- Create short list of class rules and procedures for routine assignments.

7. **Teachers should facilitate the transition of new students as soon as they arrive.**

Just as counselors and administrators need to take action as soon as new students arrive, so should teachers. Some specific activities they can do include:

- Assess the student.
- Hand out learning packet.
- Introduce the entering student to the class. This is a great time to review expectations for ALL students in the class and, if needed, review how a routine assignment is to be done.
- Pair the student up with another student for extra help. This buddy can be a volunteer or an advanced student. Ask the buddy to explain how assignments are done, class rules and procedures.
- Take some time in the first day or two to talk to the student one on one to encourage them and welcome them.
- Ask the student to stay a few minutes after class to make an appointment at lunch to give the student an orientation.
- Introduce them to another student who entered late and who is succeeding.

8. **Teachers should establish on-going activities and procedures to address the needs of new students.**

Teachers, too, need to develop on-going procedures and practices to ensure the successful transition of new students to their classes. Some specific things they can do include:

- Read the cum record for grades, attendance and background.
- Inform the parent about the class and expectations and take the time to discuss with the parent the hazards of changing schools midyear.
- Provide tutoring or review before or after school or at lunch.
- When teaching, stand near the new student the first week to make sure they are on track.
- Look for signs that the student is struggling with the classwork or having problems of social or psychological adjustment. Refer to other professionals as necessary.

9. Schools should establish procedures to recover textbooks from withdrawing students.

We found that schools with high student turnover suffered huge financial losses from withdrawing students who fail to return their textbooks. Although the California Education Code permits school districts to set up a "reasonable" due process to recover non-returned textbooks, many districts have found it difficult to do so and have given up on the idea. And the State Attorney General has ruled that districts cannot withhold student records. But schools and districts that have been heavily impacted by mobility need to establish some sort of procedure to recover these books. Schools may want to consider a financial incentive system whereby students are given cash awards to return books, which could actually save money over the cost of replacing the textbooks. Districts and even the state could help schools set up such programs.[23]

[23] We'd like to thank Gary Hart for suggesting we address this issue.

Example of a Program to Assist Mobile Students

Hueneme High School, Oxnard School District

Because many of their students were children of migrant workers or new immigrants, Hueneme High teachers and administrators always recognized that they had a transient student population. Transience was never formally discussed as a problem issue for the school but rather everyone simply accepted it as a fact of life and tried to cope the best they could. However, several years ago during a school visioning process, educators at the school realized that many non-migrant students enrolled after the school year had begun or left before the year ended. In fact, it turned out that transience at Hueneme High was about 50 percent. This meant that by the end of the school year, half of the students who started the school year were no longer enrolled at the school and were replaced by new students coming in. Everyone agreed that this high rate of transience was disruptive to the learning process and disturbing to the social and psychological development of students. In response to what had became identified as a major problem, Hueneme educators instigated a comprehensive plan to reduce mobility as well as mitigate its negative impacts. The program components consist of:

1. Conducting a thorough interview of all new students to assess emotional problems, help the student identify a network of support, and explain services and programs at the school;
2. Introducing new students to "buddy" students who will show them the campus and help explain school culture during the first few days after the new student enrolls;
3. Inviting new students to joint the Newcomers Club, where counselors meet with them weekly at lunch (there is an English and Spanish version of the club) using a specific10 week curriculum to facilitate each meeting.; [This curriculum helps new students get to know each other, facilitates discussion of social adjustment challenges, describes resources in the neighborhood community and teaches how to use public transportation. Each 10 week "session" culminates in a field trip the students design using public transportation.]
4. Providing extra opportunity for parents to meet with counselors in order to establish a home-school relationship; [The key here is that each week counselors make themselves available to parents and students from 5pm to 7pm. This services is very popular with parents and well attended.]
5. Providing an opportunity for mobile students to maintain credits by offering independent study learning packets for students who will miss school more than 20 days; [Teachers supervise this independent study. Additionally, every teacher offers lunch or after school tutoring sessions to help mobile student catch up.]
6. Providing an opportunity for mobile students to make up credits by offering after school core academic classes and work experience for credit;
7. Trying to reduce students leaving the school. [This includes requiring parents to come in and personally withdraw their child and talk to a counselor who strongly encourages parents to keep their child in the school. For students who move away, counselors help the parent and student, if at all possible, work out public transportation to get the student to school. Additionally to increase the school's "holding power" the school provides an extensive after school leisure program which is staffed by volunteer teachers, counselors and administrators.]

WHAT THE STATE SHOULD DO

Although student mobility results from the actions of students, families, and schools, the State of California is clearly impacted by this problem. Because the state has constitutional authority for education and provides the majority of funds for local schools, it has a clear interest in addressing student mobility. Below we outline some actions the state might consider:

1. Require schools to report mobility and completion rates to the State Department of Education.

One reason so little is known about student mobility in California is that the state does not collect data on the extent of this phenomenon. The State Department of Education currently collects a variety of information from the state's schools through the California Basic Education Data System (CBEDS). This information includes the number of students who graduate (for high schools) each year and the number of students who drop out grades 7 through 12 each year. We believe with only modest changes in the reporting requirements of CBEDS, it would be possible for schools to report the total number of students who complete (elementary and middle schools) or graduate (high schools) each year and to disaggregate those numbers by when students first entered the school. This would allow schools to construct **cohort graduation rates** and **cohort mobility rates**. Cohort graduation rates are simply the proportion of students who graduate from a specific entering class or cohort of students. As the U.S. Department of Education points out, cohort graduation rates provide a much better picture of how many students from each grade cohort complete or drop out of school over time (McMillen, Kaufman, & Klein, 1997). Knowing how many students from each entering grade cohort graduated or completed school would also provide information on the number of students from each cohort who left before completion—that is, the cohort mobility rate. This additional information could also be combined with information on the number of retained students since the state has recently enacted legislation to change promotion and retention policies that could greatly increase the number of retained students. Because excessive mobility and retention increase the risk of school dropout, schools should routinely collect data on these two student indicators. These data could also be used to report the number of students from

each entering cohort who remain in their school and graduate on time. Finally, some schools may be particularly impacted by both mobile students and retained students, which would present particular challenges for those schools and likely have an adverse effect on school performance.

2. Include mobility rates as a measure of school effectiveness in school accountability and performance reports.

Indicators of school performance should take into account student mobility. The California Legislature is considering legislation to develop a new way to measure the performance of the state's public schools in order to rank and categorize them for improvement efforts. Indicators of school performance should take into account student mobility in two ways. First, schools should be accountable for retaining the students that enter their school. Cohort mobility and graduation rates should be included as a measure of school effectiveness because they reflect the "holding power" of schools-their ability to retain and educate the students who walk in the door. One popular measure of institutional quality in higher education is based, in part, on graduation rates for entering freshman with no distinction between departing students who drop out or transfer to another institution. As with all measures of school effectiveness, it would be necessary to take into account a school's demographic characteristics that can contribute to school mobility rates. Second, schools should be accountable for the academic achievement of the students they retain. In comparing schools, it is not only important to take into account differences in the socioeconomic status of the students, but also how long the students have been in that school. Schools should be accountable for the achievement of the students they have had the opportunity to educate for a reasonable amount of time.

3. Hold school districts accountable to monitor the whereabouts of students who leave a school early, particularly students who say they are transferring to another school within the district, to insure that students actually enroll in another school in a timely fashion.

Student mobility is a problem, in part, because students who change schools are not monitored in the period between when they leave one school and when they enter another school, even within the same district. Currently, no one is accountable for these students during this

transition period. Data from an earlier study of student mobility revealed that it often is several weeks before secondary students re-enroll in another school (Rumberger et. al, 1998). This needs to change to avoid an unnecessary interruption in a student's schooling. Because school districts are legally responsible for the educational welfare of their students and because most mobility takes place within districts, school districts should be accountable to the state to minimize the transition time in school transfers.

4. **Require school districts to transmit the students records to the new school in a timely fashion.**

One frequent problem is that student records are not delivered to the new school in a timely fashion. Without these records, school personnel at the new school may not be aware of a student's educational history and services that he or she may need. The State Department of Education is currently working on an electronic student information system, which should facilitate the transfer of student records between school districts. But this system is not expected to be fully operational for a number of years. In an earlier study we found that 80 percent of non-promotional school changes for a cohort of on urban Latino students were within the same district (Rumberger, et al, 1998). Therefore, districts should be able to facilitate the timely transfer of student records between schools within their own districts before the state system is operational.

5. **Prepare a guidebook for students and parents on mobility that describes the advantages and disadvantages of changing schools and provides information on actions they can take to prepare for the move and ease the transition into a new school.**

At least some mobility could be prevented if students and parents were better informed about the risks and rewards of changing schools. And the transition to a new school could be improved if students and parents knew what to do to facilitate the transition.

6. **Prepare a guidebook for school districts that provides information on actions they can take to reduce unnecessary school transfers and to respond to the needs of transfer students.**

Some schools actively encourage student transfers without considering the educational consequences. And schools may do little to help integrate transfer students into their schools and

improve their prospects for academic success. But some schools, both in California and elsewhere in the U.S., have established a variety of interventions for transfer students including orientation programs and "buddy" programs to help students adjust more quickly and successfully to their new schools. The State Department of Education could investigate the effectiveness of these programs and provide useful information on these programs to schools throughout the state.

7. **Provide funds to schools with high mobility to establish programs to improve the integration of new students in a school.**

The State Department of Education could also provide grants to schools to develop, implement, and evaluate "newcomer" programs in middle and high schools with high mobility.

In conclusion, the State of California is now embarking on a series of educational reforms designed to improve student achievement. But to be successful, these reforms need to recognize and address a range of current problems facing California's students and schools, including student mobility. Mobility affects one out of every three students and one out every five schools, reducing both student and school performance. And it disproportionately impacts the most disadvantaged students and the most disadvantaged schools. If the state hopes to improve the educational welfare of those students and schools, the problem of student mobility must be confronted.

Appendix Table A.1
Number and (Percent Distribution) of NELS California Sub-sample with California State Enrollment Data

Ethnicity	National Educational Longitudinal Study of 1988					CBEDS
	US	Other States	California			California
			Total	Private	Public	Public
			I. Unweighted			
Asian/Pacific Islander	803 (7)	562 (5)	241 (22)	30 (16)	201 (22)	
Hispanic	1,389 (12)	1,043 (10)	346 (31)	41 (22)	287 (33)	
Black not Hispanic	1,149 (10)	1,097 (11)	52 (5)	7 (4)	38 (4)	
White not Hispanic	8,029 (70)	7,586 (73)	443 (40)	111 (59)	321 (37)	
Native American	127 (1)	108 (1)	19 (2)	0 (0)	17 (2)	
Total	11,609	10,495	1,114	189	864	
			II. Weighted			
Asian/Pacific Islander	91,212 (3)	63,476 (3)	27,736 (13)	5,165 (15)	21,538 (13)	32,265 (10)
Hispanic	250,550 (10)	191,640 (8)	58,910 (27)	9,022 (27)	45,350 (29)	93,003 (30)
Black not Hispanic	328,260 (13)	311,049 (14)	17,212 (8)	1,678 (5)	11,961 (8)	28,448 (9)
White not Hispanic	1,914,866 (72)	1,803,679 (74)	111,188 (51)	17,810 (51)	90,193 (52)	155,336 (50)
Native American	31,012 (1)	27,397 (1)	3,615 (2)	0 (0)	3,315 (2)	2,610 (1)
Total	2,645,374	2,423,021	222,353	33,675	172,357	311,579

SOURCE: Tabulations from the National Education Longitudinal Survey of 1988 based on 8th grade panel from the 1994 third follow-up survey and the California Basic Educational System (CBEDS) for 1987-88 school year.
NOTE: Totals include students whose ethnicity or school control (public/private) was missing. Percentages are based on non-missing cases.

Appendix Table A.2
Descriptions of NELS Variables

Variable	Type*	Description (NCES variable names)
Student Background Characteristics		
Female	D	(SEX=1)
Immigrant	D	Born outside the U.S. (BYP17=1)
Second generation	D	Born in U.S., either parent born outside U.S. (BYP17_1 and BYP14= 2 or 3 or BYP17 =2 or 3)
Held back before the 8th grade	D	(BYS74 or BYP44 = yes)
Number of school changes grades 1-8	C	Number of times changed schools since the first grade (BYP40)
Family Background Characteristics		
Socioeconomic status	FC	NCES composite (BYSES)
Single parent family	D	NCES composite (BYFCOMP=4 or 5)
Step family	D	NCES composite (BYFCOMP=2 or 3)
Schooling Experiences in Grade 8		
Urban school	D	Urban school (G8URBAN=1)
Private school	D	Private school (G8CNTRL=2, 3, or 4)
Low expectations	D	High school or less (BYS45=1 or 2)
Teacher quality	FC	Student reports of how much they agree (1=strongly agree, 4=strongly disagree) that the teaching is good (BYS59F), teachers are interested in students (BYS59G), teachers praise their efforts (BYS59H), teachers 'put them down', most teachers listen to what they say (BYS58J). Factor has an eigenvalue of 2.72 and explains 54 percent of the combined variance.
Absent 15-25 percent	D	Student missed 3 or 4 days of school over the last 4 weeks (BYS75).
Absent 25 percent or more	D	Student missed 5 days of school or more over last four weeks (BYS75).
Misbehaved	FC	Misbehavior, constructed from student reports of how often during first semester (0=never, 2=more than twice) student was send to the office for misbehaving (BYS55A), student was sent to office because of problems with school work (BYS55B), and parents received warning about their behavior (BYS55E). Factor has an eigenvalue of 2.06 and explains 69 percent of combined variance.

Appendix Table A.3 (continued)
Descriptions of Variables

Variable	Type*	Description (NCES variable names)
Academically engaged	FC	Student academic engagement constructed from student reports of how often (1=usually, 4=never) they come to class without pencil or paper (BYS78A), books (BYS78B), or their homework done (BYS78C). Factor has an eigenvalue of 1.88 and explains 63 percent of the combined variance.
No school activities	D	Student did not participate in any school activities during current school year (BYS82A-U).
Average GPA	C	Average of self-report grades from 6th grade until now in English, math, science, and social studies, constructed by NCES (BYGRADS)
Test scores	C	Standardized test composite in reading and math, divided by ten (BYTXCOMP)
Educational Stability, 1988-92		
Changed residences	D	Moved between 1988 and 1992 (F2S102=2,3,4)
Changed schools once	D	Changed schools once between 1988 and 1992 (F2S103=2)
Changed schools more than once	D	Changed schools two or more times between 1988 and 1992 (F2S103=3 or 4)
Dropped out	D	Identified as a dropout at least once during survey period (EVDOSTAT)

*Variables type is: dummy (D), continuous (C), or factor composite (FC).

Table A.3
Descriptive Characteristics of Students by Ethnicity: 1988 California Eighth Graders

	Asian		Latino		White		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Student* and Family *Characteristics								
Female	.37	.48	.57	.50	.48	.50	.52	.50
Immigrant	.50	.50	.22	.41	.02	.15	.14	.35
Second generation	.28	.45	.41	.49	.10	.30	.21	.41
Socioeconomic status	.26	1.04	-.76	.91	.49	.83	.04	1.04
Single parent family	.08	.27	.15	.35	.15	.36	.16	.37
Step family	.05	.21	.13	.34	.19	.39	.16	.37
Held back before the 8th grade	.12	.32	.15	.36	.15	.35	.15	.36
One School change grades 1-8	.40	.40	.22	.42	.22	.42	.24	.43
Two School changes grades 1-8	.33	.33	.11	.31	.12	.12	.12	.32
Three or more School changes 1-8	.31	.47	.14	.35	.26	.26	.23	.42
Schooling Experiences in Grade 8								
Attended urban school	.39	.49	.35	.48	.16	.37	.26	.44
Attended private school	.19	.40	.15	.36	.18	.38	.16	.37
Low expectations	.03	.16	.13	.34	.11	.31	.12	.32
Teacher quality	-.18	.86	-.05	.98	.02	1.00	-.04	.96
Absent 15-25 percent	.06	.24	.14	.35	.12	.32	.12	.30
Absent 25 percent or more	.06	.24	.10	.30	.10	.30	.10	.31
Misbehaved	-.24	.74	.06	.97	-.09	.96	-.01	.98
Academically engaged	.18	1.04	.06	1.00	.03	.91	.06	.94
No school activities	.34	.47	.49	.50	.22	.41	.32	.47
Average GPA	3.28	.69	2.61	.71	3.00	.79	2.87	.81
Test scores (/10)	5.41	.97	4.63	.94	5.36	.97	5.08	1.04
Educational Stability, 1988-92								
Changed residences	.29	.45	.36	.48	.39	.49	.38	.49
Changed schools once	.25	.44	.24	.43	.18	.39	.22	.41
Changed schools more than once	.05	.21	.12	.33	.13	.34	.12	.33
Dropped out	.08	.24	.29	.39	.16	.32	.20	.33

NOTE: Values based on F3 panel and weighted with weight variable F3PNLWT.
SOURCE: National Education Longitudinal Survey of 1988, 8th grade panel from the 1994 third follow-up survey.

Appendix Table A.4
Predicted Odds Ratios of Completing High School Diploma or GED by 1994: 1988 California Eighth Graders

	Completed High School Diploma			
	Asian	Latinos	White	Total
Student and Family Characteristics				
Female	11.01	.87	7.42**	1.57
First generation	.05	3.12	.86	1.71
Second generation	.06	3.15*	1.99	1.68
Socioeconomic status	1.88	2.41**	2.91**	1.74**
Single parent family	11.68	1.21	.68	.90
Step family	.00	.86	1.04	.63
Changed schools once in grades 1-8	19.46	.53	2.50	1.38
Changed schools twice in grades 1-8	.58	.50	.53	.68
Changed schools three or more times	32.11	.59	.28*	.56
Asian				1.23
Latino				.63
Black				.43
Native				.88
Schooling Experiences in Grade 8				
Attended urban school	.05	1.54	1.61	1.28
Attended private school	1.08	15.28	.52	2.02
Held back before 1988	24.91	.47	.27*	.34**
Low expectations	.01	.50	.15**	.39**
Teacher quality	.79	.73	1.97**	1.09
Absent 15-25 percent	829.15	.96	1.59	.39
Absent 25 percent or more	24.49	1.06	.39	.81
Misbehaved	.07	1.07	1.08	.85
Academically engaged	1.35	1.13	.96	1.09
No school activities	.00	1.60	.29*	.59*
Average GPA	5.05	1.62	2.70*	1.40
Test scores	.31	1.44	.56	1.26
Student mobility, 1988-92				
Moved	1.54	.88	.08	.67
Changed schools once	3.53	.28**	2.70**	.44**
Changed schools or more times	.00	.27*	.08**	.33**
-2 Log Likelihood	15.90	176.88	162.39	521.42
Pseudo R^2	.65	.34	.52	.37

*Significant at .05 level. **Significant at .01 level.

NOTE: Coefficients represent the estimated effects on the odds ratios [exp(β)] of completing a high school diploma or a GED versus not finishing high school, which is the ratio of the odds due to a one-unit change in the independent variable to the odds without the change.

Appendix Table A.5
Predicted Odds Ratios of Changing Schools Between Grades 8 and 12:
1988 California Eighth Graders

	Asians		Latinos		Whites		Total	
Student and Family Characteristics								
Female	.31*	.27*	1.03	1.43	.96	1.00	.85	1.06
First generation	1.20	1.65	.85	1.32	.13*	.10*	.82	1.12
Second generation	.99	1.39	.51	.81	.59	.46	.54**	.63
Socioeconomic status	1.15	1.27	.71*	.78	1.02	1.28	.83*	1.07
Single parent family	.07	.04	.72	.70	.23	.53	.70	.59*
Step family	.45	.61	1.35	1.53	.94	1.27	.96	1.05
Changed schools once grades 1-8	.73	.64	1.10	.69	.54	.58	1.10	.88
Changed schools twice grades 1-8	1.59	1.15	2.90*	2.63	.36*	.22**	.95	.74
Changed schools 3+ grades 1-8	3.48*	2.67	2.08	2.03	1.90*	1.67	2.52**	2.29**
Moved, 1988-92	4.54**	4.79*	2.34**	2.60**	8.35**	8.15**	4.44**	5.02**
Asian							1.15	1.16
Latino							1.61*	1.18
Black							1.67	1.02
Native American							1.99	1.41
Schooling Experiences in Grade 8								
Held back before 1988		1.30		1.20		1.11		1.05
Attended urban school		3.10*		2.05*		.74		1.22
Attended private school		.99		1.66		1.34		1.72*
Low expectations		2.07		1.11		2.09		1.77*
Teacher quality		1.29		.82		1.02		.97
Absent 15-25 percent		1.29		1.83		2.81**		1.84
Absent 25 percent or more		.66		.47		1.76		1.01
Misbehaved		.83		1.87**		1.05		1.40**
Academically engaged		1.11		1.04		.79		1.01
No school activities		2.55		2.01*		.95		1.58*
Average GPA		.43		.51*		1.02		.68**
Test scores		1.13		1.28		.65**		.86
-2 Log Likelihood		110.2		263.1		438.2		998.9
Pseudo R^2		.26		.23		.28		.21

*Significant at .05 level. **Significant at .01 level.

NOTE: Coefficients represent the estimated effects on the odds ratios [exp(_)], which is the ratio of the odds due to a one-unit change in the independent variable to the odds without the change of changing schools versus not changing schools

Appendix Table A.6
Means, Standard Deviations, and Descriptions of HSES Variables

Variable	Mean	SD	Minimum	Maximum	Description (HSES variable names)
		I. Student Level Variables (N=1609)			
Demographic Characteristics					
Female	.49	.50	.00	1.00	(S1SEX=2)
Asian	.21	.41	.00	1.00	(S1RACE=1)
Black	.09	.29	.00	1.00	(S1RACE=3)
Hispanic	.34	.47	.00	1.00	(S1RACE=2)
Native American	.01	.11	.00	1.00	(S1RACE=5)
Family Background					
Socioeconomic status	.07	.87	-3.24	1.98	NCES factor composite (S2SES1)
Nontraditional family	.38	.49	.00	1.00	(S1S92A or S1S92D ne 1)
Sibling dropped out	.13	.34	.00	1.00	(S1S94 = 4,5)
Academic Background					
Retained in grades 1-8	.13	.33	.00	1.00	(S1N22A thru I=1)
Remedial courses grades 9-10					(S1S34A=1 or S1S34B=1)
Controls					
New survey student	.56	.50	.00	1.00	(S1NSSFLG=1)
Missing SES	.04	.21	.00	1.00	(S2SES1 missing)
Student Outcomes					
10th Grade Mathematics test score	49.77	9.86	30.27	71.82	(S12XMSTD)
Leaver	.21	.41	.00	1.00	(S2DOSTAT > 0)
		II. School-Level Variables (N=51)			
Composition[1]					
Mean SES	.05	.58	-1.03	1.16	Mean SES of students (S2SES1)
SD SES	.64	.19	.00	1.13	Standard deviation of students (S2SES1)
Percent retained grades 1-8	.15	.10	.00	.43	Percent of students retained in grades 1-8
High minority	.76	.43	.00	1.00	Percent of Black and Hispanic students greater than 40 percent
Resources					
Mean Student/Teacher Ratio	20.05	5.14	1.09	30.93	(S1C2 / S1C35)
Percent Teachers with Advanced Degrees	.51	.19	.00	1.00	Percent teacher with Masters or Doctorate (S1T3_9E or F =1)
Mean Teacher Salary (/1000)	32.64	5.60	10.20	50.00	Mean of lowest and highest salary paid to teachers ([S1C42A+S1C42B] / 2)
Mean Teacher Quality	.08	.42	-.88	1.14	Mean of factor composite of student report of teach quality (S1S7G,H,I,K,L)[1]
Percent Excellent Teachers	.33	.18	.08	.95	Principal report of percent of excellent teachers (S1C92D)

Structural					
Catholic School	.14	.35	.00	1.00	G10CTRL1=2
Other Private School	.12	.33	.00	1.00	G10CTRL1=3, 4, 5
Urban School	.26	.44	.00	1.00	School located in large city or inner city (S1C5B=9, 10)
School Size (/100)	17.80	10.48	.25	40.00	Total school enrollment (S1C2)
Processes					
Selective School	.22	.42	.00	1.00	Admittance of all students based on tests, etc. (S1C54D=3)
Magnet School	.14	.35	.00	1.00	Public magnet school (S1C4AB=1)
Average Daily Attendance	.92	.06	.64	.99	(S1C26)
Percent Teacher Attrition	.03	.03	.00	.26	Percent of teachers who left at year end (S1C50/S1C35)
Mean Homework	4.93	2.19	2.03	12.57	Mean of student reported hours of homework per week (S1S36A2)[1]
Percent Student in Academic Track	.44	.24	.00	1.00	Percent of students in academic track (S1S22D - S1S22H)
Percent Students Who Feel Unsafe	.12	.12	.00	.58	Percent of students who report feeling unsafe (S1S7M=1 or 2)[1]
Percent Students Who Feel Discipline is Fair	.73	.13	.45	.93	Percent of students who feel discipline policy is fair (S1S7D=1 or 2)[1]
Teachers' Rating of Principal Leadership	.07	.49	-1.32	1.31	Mean of first component of factor composite of teacher variables[2]
Teachers' Control	.03	.45	-0.69	1.30	Mean of second component[2]
Teachers' Collegiality	-.19	.63	-2.17	1.04	Mean of third component[2]
Teachers' Influence on School Policy	-.04	.46	-1.17	1.30	Mean of fourth component[2]
Teachers' Control over Classroom	.06	.35	-1.10	1.04	Mean of fifth component[2]
Teachers' Rating of Chair/Administrative Support	.18	.39	-.49	1.14	Mean of sixth component[2]
Controls					
Missing school data	.31	.47	.00	1.00	Missing school information
Percent new students	.82	.29	.00	1.00	Percent new survey students

[1] Variable weighted at the student level with within-school weights (S1STSCWT) before aggregating to school level
[2] Factor composite created at teacher level (no weighting) before aggregating to school level.

Appendix Table A.7
HLM Estimates of 10th Grade Math Scores

	Null Model	Composition Model	Composition and Student Model
Average school rates			
Base rate	49.30	49.31	49.97
Composition			
Mean SES[a]		7.01**	4.06**
School mobility rate[a]		-7.34*	-5.08
Student-Level Controls			
Socioeconomic status[a]			4.06**
Left school before 12th grade			-2.45**
School-level variance component	28.27	6.17	6.28
Student-level variance component	68.51		
Variance Explained (%)		78.2	77.8
Reliability	.917	.720	.738

**Significant at .01 level; *Significant at .05 level; † Significant at .10 level.
[a]Variable centered around the grand (overall) sample mean.

Appendix Table A.8
HLM Estimates of Student Mobility

	Null Model	Student Model	Student and Composition Model	Final Model
Average school rates				
Base rate	-1.238	-1.370	-1.388	-2.063
Composition				
High minority[a]			.828**	0.788**
Resources				
Student-teacher ratio[a]				0.044†
Proportion of teachers with advanced degrees[a]				1.800**
Process/Climate				
Average hours of student homework[a]				-0.117*
Student-Level Controls				
Socioeconomic status[a]		-.189†	-.137	-.077
Nontraditional family[a]		.250†	.242†	.232†
Sibling dropped out[a]		.347†	.337†	.359†
Retained in grades 1-8[a]		.413*	.432*	.423*
Remedial courses grades 9-10[a]		.416*	.423*	.426*
Missing SES[a]		1.341**	1.338**	1.441**
School-level variance component	.684	.472	.390	.224
Variance Explained (%)		31.0	43.0	67.3
Reliability	.771	.690	.640	.494

**Significant at .01 level; *Significant at .05 level; †Significant at .10 level.
[a]Variable centered around the grand (overall) sample mean.

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